



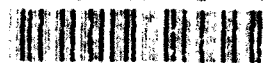
**US Army Corps
of Engineers**

New Orleans District

CULTURAL RESOURCES SERIES

Report Number: COELMN/PD - 89 06

AD-A263 084



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CULTURAL RESOURCES INVESTIGATIONS IN THE TERREBONNE MARSH, SOUTH-CENTRAL LOUISIANA

FINAL REPORT

OCTOBER 1992

COASTAL ENVIRONMENTS, INC.

1260 Main Street
Baton Rouge, Louisiana 70802

Prepared for

U.S. ARMY CORPS OF ENGINEERS

New Orleans District

P.O. Box 60267

New Orleans, LA 70160-0267

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93 4 19 150

93-08246



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SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a REPORT SECURITY CLASSIFICATION Unclassified		1b RESTRICTIVE MARKINGS	
2a SECURITY CLASSIFICATION AUTHORITY		3 DISTRIBUTION AVAILABILITY STATEMENT Unclassified/Unlimited	
2b DECLASSIFICATION/DOWNGRADING SCHEDULE			
4 PERFORMING ORGANIZATION REPORT NUMBER(S) AR-246		5 MONITORING ORGANIZATION REPORT NUMBER(S) COELMN/PD-89/06	
6a NAME OF PERFORMING ORGANIZATION Coastal Environments, Inc.	6b OFFICE SYMBOL (if applicable) CEI	7a NAME OF MONITORING ORGANIZATION New Orleans District U.S. Army Corps of Engineers	
6c ADDRESS (City, State, and ZIP Code) 1260 Main Street Baton Rouge, LA 70802		7b ADDRESS (City, State, and ZIP Code) P.O. Box 60267 New Orleans, Louisiana 70160-0267	
8a NAME OF FUNDING SPONSORING ORGANIZATION same as 7a	8b OFFICE SYMBOL (if applicable)	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER DACW29-86-D-0092 Delivery Order No. 1	
8c ADDRESS (City, State, and ZIP Code) same as 7b		10 SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. N/A Civil PROJECT NO. Works Funding TASK NO. WORK UNIT ACCESSION NO.	
11 TITLE (Include Security Classification) Cultural Resources Investigations In the Terrebonne Marsh, South-Central Louisiana			
12 PERSONAL AUTHOR(S) Richard A. Weinstein and David B. Kelley			
13a TYPE OF REPORT Final Report	13b TIME COVERED FROM TO	14 DATE OF REPORT (Year, Month, Day) October 1992	15 PAGE COUNT 430
16 SUPPLEMENTARY NOTATION			
17 COSATI CODES FIELD GROUP SUB-GROUP 05 06		18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number) Archeology Avoca Island Levee Mississippi River Deltaic Plain Terrebonne Marsh Assumption Parish Lafourche Delta St. Mary Parish Terrebonne Parish Atchafalaya River Louisiana Teche Delta	
19 ABSTRACT (Continue on reverse if necessary and identify by block number) This report presents the results of various cultural resources investigations conducted in relation to proposed flood protection measures in the Terrebonne Marsh Backwater Complex. The alternative measures being considered include extension of the Avoca Island Levee, construction of ring levees around developed areas and a barrier along the new route of U.S. Highway 90, and relocation of industries in conjunction with a barrier along the south side of the Gulf Intracoastal Waterway. Archeological investigations carried out within these areas included reconnaissance surveys and site revisits within the barrier alternatives and a stratified random sample survey plus additional site revisits within the roughly 700 square mile Terrebonne marsh area. The reconnaissance surveys located 10 new sites, and 22 previously recorded sites were revisited. Eighteen sites were recorded during the sample survey, 6 new sites were located outside the sample, and another 14 sites within the Terrebonne marsh area were revisited. Additional research was directed toward the review of collections from 21 previously recorded sites within the area.			
20 DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS		21 ABSTRACT SECURITY CLASSIFICATION	
22a NAME OF RESPONSIBLE INDIVIDUAL Michael E. Stout		22b TELEPHONE (Include Area Code) (504) 862-2554	22c OFFICE SYMBOL CELMN-PD-RA

Unclassified

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One of the focal points of the study was the integration of the archeological data from the area with the available geomorphological information in an effort to refine current models of the region's geomorphic history and to understand the ecological setting of the prehistoric occupations. This resulted in the preparation of a series of maps depicting changes in the deltaic environment and human settlement patterns through time.

Other aspects of the study examined site densities within the area and the potential impacts of the various proposed flood protection measures on the cultural resources. The latter effort utilized the results of a recently developed model of habitat change within the area to assess the future condition of the cultural resource base under various possible scenarios.

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NEW ORLEANS DISTRICT, CORPS OF ENGINEERS

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October 8, 1991

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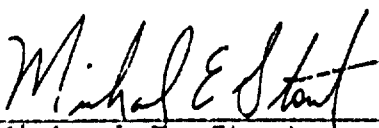
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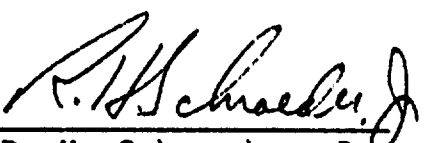
The Terrebonne Marsh study area is related to the proposed extension of the Avoca Island Levee. This levee is a feature of the Atchafalaya Basin Floodway project authorized by Congress in the Flood Control Act of 1928. The levee was completed in the early 1950's to protect the area east of Morgan City from flooding related to high stages on the Atchafalaya River. Due to deltaic activity in Atchafalaya Bay, the levee no longer provides the original level of flood protection.

In our 1982 comprehensive plan for the Atchafalaya Basin Floodway, the New Orleans District recommended extension of the Avoca Island Levee to provide the authorized protection east of Morgan City. Due to inter-agency disagreements over the magnitude of negative impacts on the Terrebonne Marsh, further study of the potential impacts was initiated. The major element of this re-analysis was a computer modelling effort by the Coastal Ecology Institute of Louisiana State University. This model is designed to predict habitat changes in the study area for future years with and without the project.

The archeological impact assessment contained in this report relies on the results of the LSU habitat model as of November 1988. Since then the model has been revised. An amended impact assessment based on the revised LSU model, and utilizing the same base data and approach, will be performed in the near future. We do not anticipate that these revisions will have a material impact on the results presented in this report.

The Contractor is commended for the high quality of this report. We believe that it is an important contribution to the archeology of the region and will serve as an important reference work for future studies.


Michael E. Stout
Authorized Representative
of the Contracting Officer


R. H. Schroeder, Jr.
Chief, Planning Division

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CULTURAL RESOURCES INVESTIGATIONS IN THE TERREBONNE MARSH, SOUTH-CENTRAL LOUISIANA

By
Richard A. Weinstein
David B. Kelley

Cultural Resources Series
Report No. COELMN/PD-89/06

Final Report

Prepared For
U.S. Army Corps of Engineers
New Orleans District
Under Contract No. DACW29-86-D-0092
Delivery Order No. 1

October 1992

Coastal Environments, Inc.
1260 Main Street
Baton Rouge, Louisiana 70802


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Principal Investigator

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PREFACE AND ACKNOWLEDGEMENTS

In July 1986, the New Orleans District of the U.S. Army Corps of Engineers issued to Coastal Environments, Inc. (CEI), a request for a proposal relative to Delivery Order No. 1 of Indefinite Quantities Contract No. DACW29-86-D-0092. The request was for a "Cultural Resources Evaluation of the Terrebonne Marsh Backwater Complex, Terrebonne and St. Mary Parishes, Louisiana." It was issued in response to the Corps' long-term operation and maintenance of the Atchafalaya Basin Floodway, as authorized by the 1928 Flood Control Act.

When in use, the floodway had a tendency to make the low-lying area east of Morgan City prone to backwater flooding. To combat this problem, the Corps constructed the Avoca Island Levee in the early 1950s. Due to recent increases in sediment load and delta-building activity within Lower Atchafalaya River and Atchafalaya Bay, however, the original Avoca Island Levee no longer provides adequate protection to the flood-prone areas.

Currently, the Corps is considering several alternatives to eliminate the danger of backwater flooding. The primary alternative is construction of an extension to the existing Avoca Island Levee, dubbed the Avoca Island Levee Extension (AILE). Other alternatives include the construction of various barriers to protect developed areas along bayous L'Ourse, Black, and du Large. During the conduct of this study, three such barriers were under consideration: (1) GIWW Barrier, (2) U.S. 90 Barrier, and (3) Bayou Black Barrier. Each is discussed in more detail later in the present report. For now it should be recognized that, in addition to the actual barrier, other construction measures, such as ring levees, relocating industrial areas, and the installation of floodgates and pumping stations, will occur, depending on the barrier alternative eventually chosen.

The AILE will be built in several stages, each to be constructed at approximately 10-year intervals. Six such stages are planned, each to keep pace with increased deposition and filling in Atchafalaya Bay. The current report concerns the effects on the region's cultural resources as a result of the construction of a "two-leg" extension to be built as the initial stage in levee expansion.

Currently, the marsh east of Morgan City and Avoca Island depends on an influx of freshwater and sediment for its nourishment. To prevent the AILE from increasing saltwater intrusion and marsh deterioration, several mitigation measures may be enacted in concert with construction of the AILE. These include the placement of a freshwater diversion structure along Bayou Shaffer, and the building of several floodgates and weirs at other strategic points in the area.

In response to environmental questions raised concerning the construction of the AILE, the Corps has funded several studies to predict the impact to the marsh in the area situated between Bayou Shaffer and the Lower Atchafalaya River on the west, Bayou Black on the north, Bayou du Large on the east, and the Gulf of Mexico to the south. This region has been termed the "Terrebonne marsh." One of the studies funded by the Corps was designed to predict the change in habitat, through time, within the Terrebonne marsh. The study was done by the Center for Wetland Resources at Louisiana State University (LSU), and indicates areas

of habitat change in the year 2033, both with and without construction of the AILE, and with construction of the AILE and associated mitigation measures. One of the primary tasks of the present study was to assess potential impacts to archeological sites, based on the LSU predictive model for each of the scenarios noted above. As will be seen, this not only involved a review of site data, but employed visits to selected sites to determine their current condition, and, principally, included a sample-based survey of the Terrebonne marsh area to allow for predictive statements to be made on the number of sites, potential impacts, etc.

Another aspect of the present study was a reevaluation of archeological sites which, in the past, had been determined either eligible or potentially eligible for inclusion in the National Register of Historic Places by previous archeologists, and which would be directly impacted by any of the possible barrier alternatives. These sites were to be assessed and potential impacts relative to both the barrier alternatives and the AILE were to be noted.

The actual study began in August 1986, with acceptance of CEI's proposal by the New Orleans District. The initial month of work was geared to the development of a research design that would be used to guide field and laboratory research, both of which would not begin until approval of the design.

The research design was accepted on 19 October 1986, and fieldwork commenced on 27 October 1986. Most of the fieldwork occurred between 27 October and 19 December 1986, and involved the survey and site revisits within Terrebonne marsh, and survey and assessment of sites related to the GIWW and U.S. 90 Barrier Alternatives. The Bayou Black Barrier Alternative actually was not added until February 1987, and fieldwork for it, along with a slight increase in the overall Terrebonne marsh area, took place between 23 March and 3 April 1987.

Following completion of the fieldwork, all material and records were analyzed over the course of the next several months. Certain sections of the report were written, including many of the individual site descriptions. A delay in finalizing the study developed, however, when it became apparent that impact data relative to the LSU habitat model would not be available on the date they were originally expected. As the delay grew, the authors became involved in other projects and work on the current study was put on hold. The habitat data finally became available, although only in draft form, on 9 November 1988, and the study was reactivated. It required approximately another three months to complete the draft report.

As with any large-scale archeological project, many individuals and institutions contributed to the completion of the present study, and the authors wish to acknowledge them at this point. Michael E. Stout of the Environmental Analysis Branch, New Orleans District, U.S. Army Corps of Engineers, served as both technical advisor and authorized representative of the Contracting Officer. He coordinated the project and supplied CEI with all necessary maps, project plans, and the draft habitat model. Mr. Stout accompanied one of the field parties to the Lake Penchant site (16 TR 4), and aided in mapping and augering at that locale. He also participated in several project meetings with the CEI participants and organized a joint meeting between personnel from CEI, the New Orleans and Vicksburg Districts, and the Waterways Experiment Station (WES) in Vicksburg, Mississippi. Howard R. Bush, head of the New Orleans District's Environmental Analysis Branch, served as acting authorized representative of the Contracting Officer for a period of several months when Mr. Stout was on sabbatical. Mr. Bush also attended the joint meeting in Vicksburg.

Lawson M. Smith, Roger T. Saucier, Joseph B. Dunbar, and Louis D. Britsch, all of WES, attended the joint Vicksburg meeting and provided information on the geomorphology and geology of the Terrebonne marsh area. Smith, Dunbar, and Britsch had earlier produced a highly important study on the geomorphology of the region which provided the basis for

stratifying the sample survey and for producing the paleogeographical interpretations presented in this report. Tommy Birchett, archeologist with the Vicksburg District, also participated in the Vicksburg meeting.

Philip G. Rivet, archeologist with the Louisiana Division of Archaeology, allowed access to the state site files and provided site numbers for newly located sites. Mr. Rivet also provided information on sites along Bayou Mauvais Bois and technical data relative to the Bois d'Arc #1 and #2 sites (16 TR 211 and 212).

Robert W. Neuman, Curator of Anthropology at the LSU Museum of Geoscience, graciously allowed access to the museum's site collections, particularly those obtained from sites in Terrebonne Parish by William G. McIntire and his co-workers in the early 1950s. Jon L. Gibson of the Department of Sociology and Anthropology at the University of Southwestern Louisiana (USL) also allowed access to collections housed at USL's Center for Archaeological Studies, and provided information on sites visited during USL's 1978 survey of the Lower Atchafalaya River region.

Kathleen Cole, Research Coordinator at the Center for Applied Isotope Studies, University of Georgia, oversaw the processing of shell samples submitted to her laboratory for radiocarbon dating. Catherine Dillsaver and Cindy Thibodaux of the Morgan City Archives provided a wealth of historical information on the Morgan City and Avoca Island areas, and copied selected documents for use in the present study.

Numerous landowners allowed access to their property during the course of the fieldwork, and several offered useful information on site locations and the history of a particular area. All are hereby acknowledged, although the names of many were not recorded. Those who were recorded include: E.C. "Bob" Thibodaux of Amelia, Louisiana, who owns the Thibodaux (16 AS 35) and Bayou Caroline (16 AS 36) sites; McDermott, Inc., also of Amelia, which leases from Bob Thibodaux the land upon which the Bayou Caroline site is located; Mr. and Mrs. George Picou of Avoca Island, managers of Avoca, Inc., property on the island where numerous sites were situated; Herman and Dwayne Crawford of Gibson, Louisiana, managers of the vast land holdings of the Continental Land and Fur Company; Hilton and Margaret Rink who live on the Deer Island site (16 TR 88/103); Marvin Marmande, Jr., and Antoinette T. Marmande, both of Theriot, Louisiana, who provided information on the Mulberry Community and Sunrise and Marmande plantations; Norman Richardson, also of Theriot, who provided information on St. Michael's Church; Norman Frederick of Theriot, who supplied information on the Bayou du Large/Old Bridge site (16 TR 71); and George Gray and Karl Adams of Avondale Shipyards, Inc., of Gibson, who accompanied one of the survey crews on its search of a portion of Avondale's property.

Fieldwork for the study was directed by the two authors. Each led one of the two-man site-assessment and revisit crews, and alternated as leaders of the boat survey crew during the canal survey of the Terrebonne marsh area. Ray Frye of Hartwell, Georgia, and Dennis Jones of Baton Rouge, Louisiana, led the terrestrial survey crews during the transect surveys of the Terrebonne marsh area. Frye led this aspect of the survey during the initial fieldwork along Bayou du Large and in the marshes to the west, and Jones led during the latter fieldwork along Bayou Black.

Field assistants at various times throughout the course of the project included George McCluskey, now of Little Rock, Arkansas; David Willis of Bunkie, Louisiana; Ramona S. Mayer of CEI; and Bill Flores, Ginger Spielman, and Xu Jingxuan, all of Baton Rouge, Louisiana. Of these, Willis and Mayer contributed the greatest amount of time, serving as assistants to the initial terrestrial transect and canal surveys, respectively. Both of these individuals, along with Frye, should be acknowledged for braving several days of freezing

Investigations in the Terrebonne Marsh

temperatures, rain, wind, and the general discomforts associated with fieldwork in the south Louisiana marshes during late fall. On two occasions, the canal survey crew was joined by interested, avocational archeologists. They included Barbara Haga of Amelia and Mike Comardelle of Luling, Louisiana.

Several individuals contributed to the various laboratory tasks following completion of the fieldwork. David Willis, Ginger Spielman, and Xu Jingxuan continued employment in this capacity, and were joined by CEI personnel Thurston H.G. Hahn III and Rachel E. Power. These individuals washed, sorted, and catalogued the artifacts and ecofacts retrieved during the fieldwork, while Hahn conducted limited grain-size analysis on a soil sample from the Lake Penchant site (16 TR 4).

Aboriginal ceramics and lithics were analyzed by Weinstein, while George Castille III, of CEI, analyzed the historic artifacts. Weinstein and Castille also photographed the artifacts illustrated in the report. Curtis J. Latiolais served as CEI's draftsman during the study, while typing was done by Linda Abadie and Ramona Mayer. Final report production was conducted by Susan A. Watts.

CHAPTER 1

INTRODUCTION

The present project area is located in the Holocene deltaic plain of the Mississippi River alluvial valley in south-central Louisiana (Figure 1-1). It is bounded on the north by the proposed relocation route of U.S. Highway 90, on the east by the channel of Bayou du Large, on the west by Bayou Shaffer and the Lower Atchafalaya River, and on the south by the Gulf of Mexico. Morgan City is situated just west of the project area, while Houma is just to the east.

The project consists of two principal segments: proposed barrier alternatives and the Terrebonne marsh (Plate 1). There are three barrier alternatives under consideration. One parallels the proposed relocation route of U.S. 90 from its junction with the natural levee of Bayou Black westward to a point between Bayou Boeuf and Bayou Ramos on Tiger Island. Included in this alternative are proposed ring levees around the industrial complexes at Boeuf, Amelia, and the Avondale Shipyards on Bayou Black. At the time of the actual fieldwork, only the first two areas had been identified, so survey and site assessment was not conducted in the Avondale shipyard location.

The second barrier alternative will parallel the Gulf Intracoastal Waterway (GIWW) from the present junction of the GIWW with Bayou Chene eastward to the Bayou du Large natural levee. Included in this alternative is the relocation of selected industries presently situated around Morgan City to proposed locations on Avoca Island.

The third barrier alternative is a variation on the U.S. 90 plan noted above. This plan, identified as the Bayou Black Alternative, would deviate from the U.S. 90 plan at Gibson, cross Bayou Black, and then consist of a levee which would proceed eastward paralleling the south bank of Bayou Black to the vicinity of Houma.

Twenty archeological sites which have been recommended as potentially eligible for inclusion in the National Register of Historic Places by previous surveys may be affected by the barrier alternatives. These were to be assessed as to current condition and whether or not they appear to be eligible for the Register. A reconnaissance-level survey of those portions of the first two alternatives not previously surveyed was required, as well.

The Terrebonne marsh portion of the project was designed to consider those sites which would be affected by environmental deterioration if the proposed Avoca Island Levee Extension (AILE) (the primary alternative) or the Bayou Black Alternative is constructed. It required assessment of the quantity and condition of known and potential cultural resources in an area bounded by Bayou Black to the north, the Bayou du Large channel to the east, the Avoca Island Cutoff and the Lower Atchafalaya River to the west, and the Gulf of Mexico to the south. The scope of services for the present study required that a stratified random sample survey of the Terrebonne marsh be conducted to assess the cultural base of the area. Coupled with the sample survey, was the requirement for a specific sample of known sites to be revisited to assess their present condition.

The present study was developed, therefore, to address each barrier alternative and the Terrebonne marsh area. It will begin with chapters on the environmental and cultural settings of the project area, followed by a chapter on proposed research topics, including specific

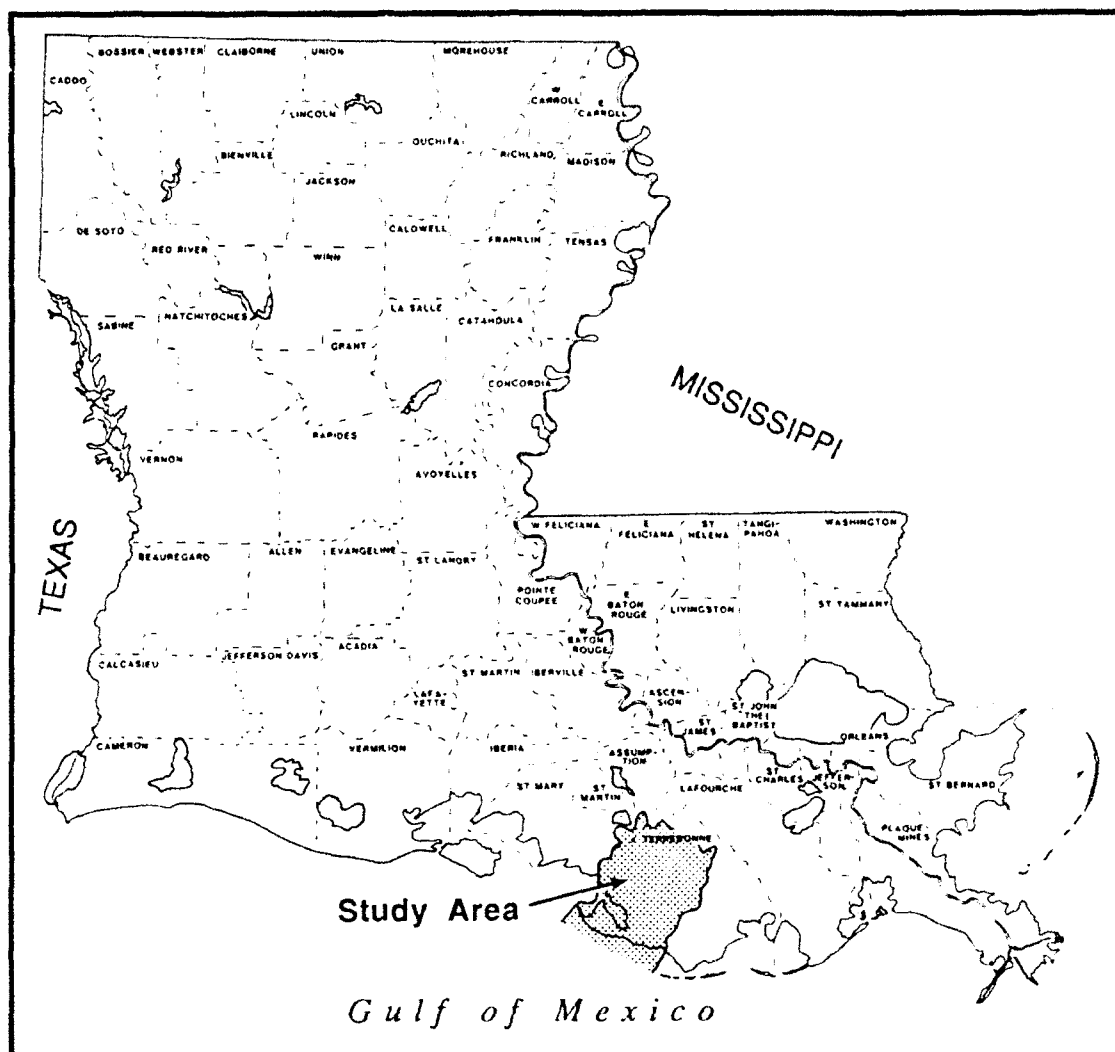


Figure 1-1. Location of the present study area in south Louisiana.

sampling strategies, survey units, survey methods, site assessments, and laboratory analyses. Several chapters then are presented on the various surveys, site assessments, and collection review, in which individual sites are discussed and their potential significance suggested. This is followed by a chapter on the reconstruction of the area's paleogeography, based on the data previously presented. The final two chapters provide a review of possible impacts to sites in the region if the AILE is constructed, and will offer several predictions of site occurrence, age, condition, etc., based on the sample survey.

CHAPTER 2

ENVIRONMENTAL SETTING

The study area lies within the Mississippi River deltaic plain of south-central Louisiana. The dynamic nature of the deltaic environment has placed considerable constraints on the timing, distribution, and functional nature of human habitation. This section will focus on those aspects of the environment that are most critical to an understanding of human adaptation to the area.

Geomorphic History

The geomorphic history of the Mississippi River deltaic plain has been the subject of numerous studies over the past 50 years (Fisk 1944, 1952; Kolb and Van Lopik 1958; Frazier 1967). These studies have provided the basis for the currently accepted sequence of deltaic development, and are the source of much of the information summarized below. They have been supplemented by two more recent studies which have focused on the present study area. The first of these is a geomorphological investigation of the Atchafalaya Basin and adjacent coastal zone conducted by the U. S. Army Corps of Engineers, Waterways Experiment Station (Smith et al. 1986). This study involved the collection and analysis of numerous shallow vibracores in an effort to more precisely identify the various landforms which make up the area and to refine current estimates of their age. The second study is an overview of the geomorphic history and sequence of human occupation of the parishes of Lafourche and Terrebonne which was prepared by the senior author and Sherwood M. Gagliano (Weinstein and Gagliano 1985). This study relied on the extensive geological data presented by Frazier (1967) and Fisk (1944) and attempted to refine the chronology of the deltaic sequence through the use of recent archaeological data. The studies by Smith et al. (1986) and Weinstein and Gagliano (1985) agree on much of the geomorphic history of the present study area, but, as will be seen below, they disagree on certain important points.

The landforms located at or near the surface within the study area have been formed by deltaic activity within the past 9,000 years (Fisk 1952; Frazier 1967). The earliest episode of delta building occurred between about 9000 and 6500 years ago when sea level was 40 to 60 ft below its present elevation. This delta, known as the Maringouin, once extended 40 to 50 mi beyond the present shoreline, but with subsequent sea level rise it was transgressed and gradually eroded back (Figure 2-1). Much of the onshore remnant of the Maringouin Delta is now deeply buried beneath later deltaic deposits; however, Weinstein and Gagliano (1985:122) have suggested that a relict beach ridge partially exposed west of Lake Penchant may represent a reworked portion of the early delta. Other researchers have argued that this feature is associated with the next stage of delta building and is therefore substantially younger (Smith et al. 1986:64).

By about 5800 years ago sea level had risen to approximately its present level, and the Mississippi began prograding a new delta, known as the Teche, into the shallow Gulf. The trunk channel of this system has been reoccupied by bayous Teche, Boeuf, L'Ourse, and Black, which cross the northern portion of the study area. Its natural levees, composed of grayish brown silts and silty clays, have subsided somewhat, but are still extant as surface exposures 1/2 to 1 mi wide. Major distributaries of this system within the study area include Bayou Cocodrie, Bayou Piquant, Bayou Penchant, Carencro Bayou, and Little Horn Bayou,

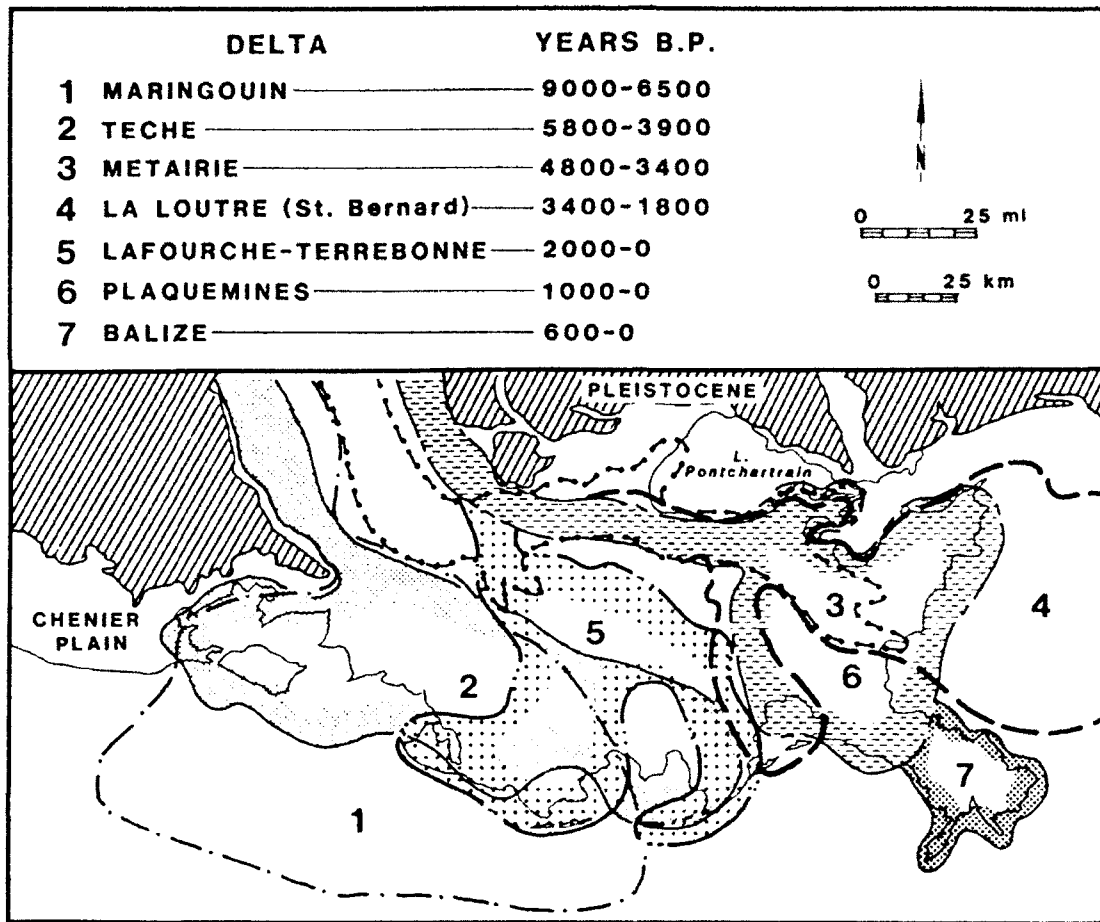


Figure 2-1. Mississippi River delta sequence over the past 9000 years. (After Weinstein and Gagliano 1985:Fig. 1.)

all of which trend southeast. Their natural levees are considerably smaller than that of the trunk channel, and in many places have completely subsided beneath the marsh.

While the age and content of the Teche Delta are known in general terms, questions remain concerning the period during which it was active within the present study area and the location of its eastern limits. Smith et al. (1986:61-62) suggest that deposition in the Terrebonne marsh area occurred between 4500 and 3500 years ago, and that the easternmost deposits are found in the vicinity of Houma. Weinstein and Gagliano (1985:123) argue for a somewhat earlier period of activity, 5800 to 3900 B.P., and, following previous researchers such as Russell (1940:1203) and Fisk (1944), place the eastern margin of the Teche Delta approximately 30 mi east of Houma. They identify several southwest trending distributaries in the eastern portion of the present study area, including Bayou du Large, Bayou Mauvais Bois and Small Bayou La Point, as having been initially formed by the Teche Delta. Smith and his co-authors (1986:64-67) assign these to a later episode of delta building.

About 4800 years ago the Mississippi River began shifting out of the Teche course and creating a new delta in the area of present-day New Orleans. Various known as the Cocodrie (Fisk 1944), Metairie (Weinstein and Gagliano 1985), or an early stage of the St. Bernard

Delta (Frazier 1967), it initially received only partial flow as a portion of the Mississippi's discharge continued down the Teche, building new distributaries now occupied by bayous Sale and Cypremort. As the Mississippi's flow gradually shifted to the east, the Red River, which had intersected the Mississippi south of the Marksville Prairie, occupied the old Teche course and discharged directly into the Gulf through its distributaries. Several authors have commented on the narrow and relatively steep Red River natural levees which may be seen within the broad, gray levees of the Teche-Mississippi (Landreth in Newton 1985:111; Russell 1940:1205).

The duration of the Red's occupation of the Teche course is not well established at present. Russ (1975:163-166) suggests that the Red followed the Teche course only a short time after the Mississippi abandoned it. He argues that the Red then shifted into a new meander belt, occupied it for a time, and then abandoned it in favor of the Teche course once again. Unfortunately, Russ has no absolute dates for any of these events. Archaeological data from two widely separated localities bear on this problem. One of the localities is the Gibson site (16 TR 5), located within the present study area. McIntire (1958:63-64) took several cores from the site and encountered a Marksville-age shell midden intermixed with reddish silts which he interpreted as Red River deposits. Based on these findings, McIntire suggested that the Red was still occupying the Teche course at the time that the midden was deposited (ca. A.D. 1 to 400). The other piece of archaeological evidence comes from the modern Red River meander belt through Moncla Gap. Previous researchers have generally placed the age of this meander belt at less than 1,000 years (Fisk 1944; Saucier 1974:Fig. 3), but Pearson (1986) has recently noted that the apparent association of several early Marksville sites with this feature argues for a considerably earlier date of establishment, on the order of A.D. 1 to 200. Thus two sets of archaeological data suggest that the Red River abandoned the Teche course about 1800 to 1900 years ago.

While the Red River continued to occupy the Teche course, the Mississippi began diverting out of the St. Bernard Delta and gradually shifted its flow down Bayou Lafourche. The Lafourche system reached its peak flow about 2000 years ago, creating new delta lobes east of the present study area and reoccupying old Teche distributaries such as Bayou Black and Bayou L'Ourse. Some researchers (Smith et al. 1986:64) argue that the distributaries presently occupied by Bayou du Large, Bayou Mauvais Bois, and Small Bayou La Point were established at this time. As noted previously, Weinstein and Gagliano (1985:142) suggest that these distributaries were initially formed by the Teche Delta and were simply reoccupied by the Lafourche system.

About 1000 years ago the Mississippi River again began shifting its course to the eastern portion of the deltaic plain and building the Plaquemines Delta. A small amount of flow continued down the Lafourche system, but this was probably not responsible for any significant land formation within the present study area. This diminished flow continued until 1904 when the source of Bayou Lafourche was artificially closed. After about 1000 B.P. subsidence and marine transgression became the dominant processes within the Terrebonne marsh. Only within the last 50 years, since the Mississippi's diversion of a portion of its flow down the Atchafalaya River, has sedimentation begun to occur along the western edge of the study area.

Depositional Environments

The complex geomorphic history of the study area has resulted in an intricate and constantly changing mosaic of environmental zones. Recent human activities have, in some cases, dramatically altered the condition of these environmental zones (e.g. the clearing of forests from natural levees), and in other cases they have accelerated the change from one environmental type to another (e.g. the shift from fresh to brackish marsh). Rather than

describe the present environmental conditions within the study area or the current distribution of environmental zones, neither of which may be particularly relevant to the prehistoric past, the following discussion will focus on the types of depositional environments found within the area. There are several reasons for this approach: (1) depositional environments can generally be identified from maps or remote imagery and a recent study (Smith et al. 1986) has delineated those at or near the surface within the present area, (2) depositional environments often have distinctive lithological characters which allow them to be identified subsurface in borings and excavations, and (3) depositional environments can be dated by a variety of relative and absolute dating techniques to permit a reconstruction of the environmental setting at some point in the past.

One group of depositional environments found within the present study area consists of a series of fluvial features which include natural levees, point bars, abandoned channels, abandoned courses, and distributary channels (Smith et al. 1986:10-16) (Plate 2). Natural levees are ridges formed through vertical accretion as a result of overbank flooding along a stream. They parallel the channel and slope away from it. The natural levees presently exposed within the study area vary from over 1 mi wide along the trunk channel of the Teche-Mississippi course to only a few feet wide along some of the smaller distributaries. Their crests range in elevation from 10 ft to approximately sea level. Natural levees are presently exposed mainly along the northern and eastern limits of the study area, but they occur in the shallow subsurface throughout much of the area, having been buried by subsidence beneath more recent swamp and marsh deposits.

Point bars are lateral accretion deposits which form on the inside bank of meandering streams. They exhibit a fining upward sequence of grain sizes and a characteristic ridge-and-swale topography. Within the present study area, point-bar deposits are limited to the trunk channel of the Teche-Mississippi system, and are therefore a minor depositional environment.

Abandoned channels and abandoned courses are both relict stream channels. Smith et al. (1986:11-13) distinguish between the two primarily on the basis of length and the fact that a course is abandoned in favor of a new meander belt. For our purposes the two will be combined and referred to as abandoned channels. Although abandoned by the river, these channels are often reoccupied by smaller streams and may continue to contain open water for a considerable period of time. They gradually fill with fine-grained deposits interbedded with organics.

Distributary channels are simply small stream channels which diverge from the trunk channel of a deltaic system. Like the larger channels of the delta, they have associated natural levees, but in the present study area they have often subsided completely beneath the marsh. For our purposes these components of a distributary channel will not be distinguished from other abandoned channels and natural levees.

Other depositional environments found within the study area include inland swamps, marshes, active and abandoned beaches, and lakes and interdistributary bays. Inland swamps are poorly drained areas bordered by natural levees that support swamp-forest communities. Presently they are limited to the northern and western portions of the study area, but their distribution has changed over time with the expansion and deterioration of the delta lobes.

Marshes make up the majority of the land presently exposed within the study area. They support a vegetation composed predominantly of grasses and range in salinity from fresh to brackish to saline. The three marsh types vary in elevation, ratio of organics to inorganics, and associated plant species, and can sometimes be distinguished in the subsurface through a combination of sedimentological and botanical analyses. They are presently distributed in a

series of roughly east-west trending bands across the study area, but, like the inland swamps, their distribution has changed considerably through time.

Active and abandoned beaches are minor environments within the present study area which have formed through marine erosion of deltaic deposits. The active beaches are located along the present Gulf shoreline, poorly developed and rapidly retreating. Nevertheless, it is believed that they should be distinguished from the marshes which lie behind them. The only possible abandoned beach identified within the study area is located west of Lake Penchant and has been discussed previously.

The final depositional environments to be considered, lakes and interdistributary bays, are bodies of open water which may form during progradation of a delta or after it has begun to deteriorate. They often differ in salinity, but both fill with fine-grained deposits.

CHAPTER 3

CULTURE SETTING

This section will provide data both on previous investigations pertinent to the archeology of the area, and on the postulated cultural chronology of the central Louisiana coast, particularly the lower Atchafalaya Basin and adjacent marshes. Much of this information has been presented previously (Gibson 1978b, 1979; Goodwin et al. 1985a; Neuman 1977, 1984; Weinstein et al. 1978), but a brief synopsis is necessary to "set the stage" for the investigations that follow.

Previous Investigations

The earliest reference to potential archeological sites located for the present study, is the term "Temple" shown on a map entitled *Carte Generale du Territoire d'Orleans* by Barthelemy Lafon and dated 1806. This temple presumably represents a prominent Indian mound and is located at what is apparently the southeastern end of Lake Palourde, although the geography of the region is somewhat confused, making absolute location difficult to discern. If the temple is in the position suggested, then it likely refers to the Lake Palourde site (16 AS 14), reportedly a large shell midden situated at the junction of the lake and bayous Boeuf and L'Ourse.

The next set of references to sites in the general study area comes from James Leander Cathcart and John Landreth, commissioned by the U.S. Navy in November, 1818, as agent and surveyor, respectively, to locate stands of live oak and red cedar trees for construction of naval vessels (Prichard et al. 1945:735-736). Along with fellow agent James Hutton, and a crew of seven men, Cathcart and Landreth spent approximately three months (January through March 1819) travelling throughout the Atchafalaya Basin, up and down Bayou Teche, and along the Louisiana coast between Belle Isle and Bayou Petit Caillou. Both men left journals of their expedition. Cathcart's was edited and published in 1945 by Walter Prichard, Fred B. Kniffen, and Clair A. Brown (Prichard et al. 1945). Landreth's account has been presented twice within recent years; first by Dennis A. Gibson in a series of five installments in the *Atakapas Gazette* (D. Gibson 1979a, 1979b, 1980a, 1980b, 1980c) and, second, by Milton B. Newton, Jr., as a single volume (Newton 1985). Cathcart was the apparent leader of the party and it is interesting to note that he used Lafon's earlier map as a guide (Prichard et al. 1945:760).

On January 23, 1819, the expedition reached the southeastern corner of Lake Palourde, the junction of the lake, Bayou Boeuf and Bayou L'Ourse (Prichard et al. 1945:788-90). That portion of Bayou Boeuf which runs roughly north-south (connecting Lake Palourde and the present-day Gulf Intracoastal Waterway) was then referred to as "La Coup." It was near the entrance to La Coup that Cathcart first detailed an Indian site within the general study area. This site, today known as the La Coup site (16 SMY 146), is located on the extreme northeastern edge of Tiger Island and immediately across Bayou Boeuf from the Lake Palourde site (16 AS 14). Cathcart described it as follows:

At the mouth of LaCoup, the land tends N by E along Lafourche Island; Tiger Island, and Lafourche Island points, bear N and S of each other. The West side of Tiger Island ranges SW 1/2 S, to West about 5 miles; in this bearing LaCoup is bounded by Tiger Island on the South and Lafourche Island on the North; We landed at a white mans house on Tiger Island where LaCoup

is from 80 to 100 yards wide, there is likewise a house on Lafourche Isle opposite to it, own'd by one Garrett Taylor from Ouachita - Pierre Moreaux at whose house we landed is a sailor, a native of old France, & is about 60 years old, his wife is a native of Bedford County Pennsylvania, about 33 & has two children the youngest a fine fat boy of a year old, their house is fix'd on a hill of clam shells, which bounds an Indian burial ground, from whence they frequently dig human bones, once they found a whole skeleton; behind the hill is a piece of good alluvial land; as low as the surface of the water, the soil appears rich & produces red maize, cabbage, garlic, beans, & sweet potatoes - they have some poultry, & what I thought a curiosity, their dog which was very tame, eat corn with them in perfect harmony, picking the grain from the Cob with his teeth, & generously permitting an old hen to pick up all that fell on the ground . . . [Prichard et al. 1945:789-790].

Landreth's description of the locale is almost identical:

. . . here on Tiger Island near the mouth of the coup or cut is a small settlement in possession of Peter Muro a Frenchman formerly a sailor is about sixty years of age. has a wife about thirty years of age and two children a Boy and Girl quite small the wife a native of Pennsylvania her maiden name Donnelly they have lived here some years and from account enjoyed good health Muro has in cultivation about six acres which supplies the family with Bread and wholesome Roots and plenty of garden vegetables the old man appears to be industrious he has got some Peach Trees Planted which appears very thriving he was this Day planting sweet Potatoes his Peas was about fit to . . . Blossom his onions and garlic 6 inches high everything looked in a very growing way. their House or rather miserable Hut stands on the Top of a high bank of Shells near the side of the cut the Lands as they extend back from the cut fills very low but are a rich black Soil and very productive. here we got a supply of fresh water tolerably good [Newton 1985:63].

Leaving the Moreaux family, Cathcart and party descended Bayou Boeuf and casually mentioned "several plantations tolerably well fenced" (Prichard et al. 1945:790) situated along its banks. One structure situated along the "last reach" of La Coup was "a good plaster'd house, full as good as any of the houses at Franklin, with several outhouses, which make a neat and comfortable appearance . . ." (Prichard et al. 1945:790). This may have been a forerunner of the Hard Times Plantation (or Thibodaux) house (16 AS 34), reportedly built in 1832 by George Schwing who had previously settled along Bayou Boeuf (Stahls 1976:82-83; Weinstein et al. 1978:31-33).

Turning west with Bayou Boeuf near the present location of Amelia, the Cathcart expedition proceeded west toward Berwick Bay. After crossing the bay, the party stopped at Berwick Plantation where today the town of Berwick is situated. It is there that both Cathcart and Landreth describe what certainly must have been an impressive array of Indian mounds and shell middens.

Cathcart records the mounds and middens in unusually fine detail:

On Mr. Berwicks place are four Indian Mounds, which are a natural curiosity, the origin of which is veil'd by the lapse of time, they are situated at right angles, pointing to four Cardinal points, including a square of about an Acre, in which about 30 years ago, there were several strata of ashes very visible, supposed to have accumulated from the council fires of the aborigines . . .

The bank of the river behind which these mounds are situated, is ten feet high, composed of Clam shells, on the fish which, it is supposed they fed - The two which point on the bay, are about 250 yards apart - the Southernmost, which is the highest, is about 30 feet above the surface of its base, which is level with the water, its parallel companion, is not so large, but they are all of the same figure, which is the frustrum of a Pyramid, of 60 yards, each side at the base decreasing, until at the summit, they are not more than 30, forming an ascent rather difficult . . .

On the North sides of the two Southern, & south sides of the Northern ones are gangways form'd by which to ascent; at the base of the southwestern mound, is a large pool of water, & on the top of the Northeasternmost is a large heap of ashes, which have been dug into, a small distance, but no discovery has been made, it is supposed to be the Altar on which they offer'd up sacrifice, where even human victims may have been immolated at the shrine of the offended Deity of the waters . . .

It is conjectured that these mounds were erected at some remote period as a place of retreat from the inundation of the Mississippi; this may have been the case, combined with a place of defense when attack'd by superior numbers, it is likewise probable that the waters might have risen far above their expectation, & overwhelm'd them at their last reterat, & not even left a vestage of their existence; or that the lapse of time has been so great, since they were erected that it has buried the tradition with its depositories in the gulf of oblivion . . .

To reconcile these opinions, it is necessary to examine the interior of the mounds, in which with the exception of a small space on the Northeastern Altar, & on the Southeastern, where Mr. Berwick's mother is inter'd, they have remain'd undisturbed for ages; were it not for their great magnitude, they might be supposed to be the repository of the bones of innumerable bodies of Indians, who died in battle, or by pestilence, & annually accumulated by natural deaths, which at different periods have been cover'd with Stratas of earth, but their vast size & regular form, is opposed to this opinion, we must therefore remain in comparative ignorance, until this curious work of the Sons of forest, is explored to its base . . .

It is worthy of remark, that many human bones have been dug up, on Mr. Berwicks plantation, in the vicinity of the mounds, while they have remained undisturb'd . . . [Prichard et al. 1945:793-795].

The fact that Cathcart was able to observe the "gangways" and "pool" (borrow pit) attests to the fine state of preservation of the mounds in 1819. Landreth provides a somewhat different description:

. . . now in Berwicks Bay we steer West Northwest three quarters of a mile to a settlement owned by a Mr. Berwick from whose Ancestors Berwicks Bay took its name here at Mr. Berwicks we went on shore and examined some Indian Mounds as they are called. there is four of these mounds in number which are evidently works of art and apparently much labour has been spent upon them the four forms nearly a square :: at about the distance of sixty yards apart. there being no record or tradition of the Origin or cause of the raising of these mounds the mind is left to conjecture. when how and for what purpose they originally were raised. the Lands on which these mounds stands are very

low and being all alluvion were no doubt much lower formerly than they are at present and more subject to inundations these mounds might therefore be raised as places of retreat during the overflowing of the waters they have also the appearance of places of security in time of war. the most [illegible] of which Mr. Berwick has converted into a Burying ground and has there laid his mother the figure of this mound appears to be a perfect cone and perpendicular height about one hundred feet. the top or smaller diameter being about one hundred and twenty feet. we staid but a short time on shore got some oranges of Mr. Berwick and soon went on board of our Boat again and stood up the Atchafalaya or Berwick's Bay North North West two miles to the mouth of the Teche . . . [Newton 1985:66]

In an earlier study, Weinstein et al. (1978) suggested that these mounds were equivalent to at least one which used to stand on Fairview Plantation property slightly to the north of present-day Berwick. It now appears that this suggestion was in error, and that the mound on Fairview Plantation and those on Berwick's place were two separate sites. Data to support this revised interpretation will be presented below.

After exploring the environs around Berwick Bay, Cathcart and company headed south down the Atchafalaya River. After passing the southern end of Bayou Shaffer, Cathcart reported the following:

Steer'd SSW 1/2, WSW 1, SSW 1 mile to Meridian, bent a fishing line on to lead line, & got bottom in 8 fathoms, S by E to S 1/2 E 2 miles to shell Island . . . on which is a clump of live oak, of a low shrubby growth, which is the first we have seen since the marsh commenced, at 1 1/2 PM it bore WSW & may be known by a white shelly or sandy beach . . . [Prichard et al. 1945:798].

This same location was recorded by Landreth in the following manner:

. . . this two miles brings us to a Small Island on our right containing about two acres of Land apparently made up of a mass of Shells mixed with a little Earth covered with a handsome growth of small young Live Oak; this place we call Shell Island; which has a very handsome appearance being pretty high and a handsome shell beach on one side washed by the Broad deep waters of the Atchafalaya and rising like an artificial mound out of the Low Surrounding marsh who's summit is adorned with beautiful Live Oak and its margin generally covered with aquatic Fowls [Newton 1985:75].

This "Shell Island" is today known as Shell Island Point and is the locus of a large prehistoric shell midden (16 SMY 25) of the same name.

Leaving Shell Island Point, Cathcart and his party headed towards Deer Island, in the center of which was a large, prominent stand of oaks growing on a shell ridge (Prichard et al. 1945:798-799; Newton 1985:75-76). Because this ridge today is known as the Deer Island site (16 TR 88/103), and was visited and assessed during the current study, there is no need here to present a detailed description of Cathcart and Landreth's findings. Instead, the reader is referred to Chapter 6.

On January 26, 1819, the Cathcart party entered Atchafalaya Bay and turned southeast into Fourleague Bay. There:

At 1 PM we landed on a shelly point, . . . on the South side of the Peninsula, the West end of branch willow Island, bearing NW by W 1/2 W, 7 or 8 miles, & the NW point of marshy Island W by N, those are the outermost points, which form the channel between branch willow and Marshy Island, which is 2 or 3 miles wide . . . [Prichard et al. 1945:800-801].

Cathcart's usually excellent directions are somewhat confusing at this point, and it was not possible for Prichard et al. (1945:800, footnote 272) to accurately locate his "shelly point." From the general location, however, the editors guessed the location to be near the mouth of Blue Hammock Bayou (Prichard et al. 1945:800, footnote 278). With the more recent discovery of Landreth's journal, it is now possible to accurately locate "shelly point," although Landreth makes no mention of any shell on the "Peninsula." A map of the Atchafalaya and Fourleague bays provided by Landreth clearly shows that the peninsula in question is Halter's Island Point and that "branch willow Island" is most likely Halter's Island (Newton 1985:83). Today, there are no known sites located on Halter's Island Point, although a rather long stretch of wave-washed shell was identified on the point from aerial photographs by Kathleen Byrd, Louisiana State Archeologist. This shell most likely represents the shelly point noted by Cathcart.

After leaving the peninsula, Cathcart's party continued eastward through Fourleague Bay. Eventually they entered Oyster Bayou, the channel connecting the bay with the Gulf of Mexico. There, Landreth reported:

. . . thence South South West three quarters of a mile to the mouth of the Bayou or Pass at its entrance into the Gulph of Mexico a fine high shell bank on the left hand of the mouth of the Bayou at its entrance into the Gulph on the main here we stop and eat dinner and observe the Latitude which we found to be Lat.^d 29° 8" North.-----

. . . here we had a fine meal of oysters the oysters are very fine and in great plenty . . . [Newton 1985:82]

Again, there are no known sites at this location, nor any shell identified on aerial photographs. Perhaps the shell bank was simply a large, natural oyster reef, but that seems unlikely as the expedition ate lunch at the locale and since it is noted as a "shell bank" on Landreth's map of the Fourleague Bay area (Newton 1985:83).

Finally, the last possible site described by Cathcart and Landreth before the survey party moved east out of the present study area is of some interest, since it represents another case where no known site is presently recorded at the location noted. Cathcart states:

. . . at 4h.30' PM the middle entrance of Bayou de Large of Buffalo bore due North dist. 1 mile, having a clump of trees over it, at the distance of 4 or 5 miles; the banks high of Clam, & other shells, the marsh inside of them very low & infested with millions of Musquitos which are insufferable; There are 3 entrances to this Bayou which flow in different directions to their junction, where they make one stream & end in the marsh, this stream in its passage runs into a small lake, which is nothing more than a swell of the same Bayou-- [Prichard et al. 1945:803].

Landreth records the following:

. . . thence East one mile to the westernmost mouth of Bayou Bufelo which runs North Easterly from thence East two miles to a point called four mile point in six feet water from said four mile point north about two hundred yards to the middle mouth of Bayou Bufelo which also runs North Easterly and is much about the size of the of the westernmost mouth about eighty yards wide. from this point back to the other point a considerable indenture in the shore. here on four mile point is a shell bank on which we pitch our Tents for the night a shell bank being the most comfortable Lodging we can find in this country. very cold this Evening for this climate at Sun Down the Mercury in the Thermometer down to Sixty degrees a very disagreeable air . . . [Newton 1985:85].

It is unlikely that Cathcart's "banks high of Clam and other shells" could refer to anything but a shell midden.

Following the Cathcart survey, a period of 23 years elapsed before any of the sites reported by Cathcart and Landreth were again noted. In 1842, J. J. Williams conducted a survey of potential military approaches to New Orleans for that area of Louisiana west of the Mississippi River. Williams' survey was but one of several surveys performed under the direction of Captain George W. Hughes of the U.S. Army's Corps of Topographical Engineers.

On the 27th of February, 1842, Williams passed the Point au Fer Lighthouse and entered Atchafalaya Bay from the Gulf (Williams 1842:46-48). Heading up the Atchafalaya River, the survey party came to Cathcart's "Shell Island." Williams (1842:48) noted:

. . . came to anchor within the River at the upper end of Shelly Island, for which see map

Williams' map of Shell Island is reproduced here as Figure 3-1. The island is labeled "La Fitte Point," contains numerous live oaks, and at least two solid squares, probably representing buildings, are shown.

Leaving Shell Island, Williams continued up the Atchafalaya to the mouth of Bayou Teche. His map of this stretch of the river is highly detailed and critical to an understanding of the mounds on Berwick's Plantation. For that reason, a portion is reproduced here as Figure 3-2. At the plantation "4 Indian Mounds" are shown and oriented in the same square pattern as noted by Landreth. Four structures, one of which presumably is the Berwick main house, are illustrated just landward of the mounds. One of the mounds is shown directly on the bank, suggesting that it was being cut into by the Atchafalaya at that time. It is clear from this that the mounds, if they had survived, today would be located in downtown Berwick. They, therefore, are not the same as the mound recorded by Weinstein et al. (1978) on Fairview Plantation about 2.5 km further up the river. Nevertheless, it is apparent that the western bank of the Atchafalaya River (or Berwick Bay) was the locus of at least two mound sites and extensive shell middens. The Berwick Mounds almost surely played a major role in the prehistoric sociopolitical system of the region. It is, therefore, critical that any attempts at understanding the settlement, social, and political makeup of the aboriginal population of the area must also consider this site, at least during the later portion of the prehistoric period.

Nine years after the Williams survey, a short note in *De Bow's Review* refers again to what are probably the Berwick Mounds:

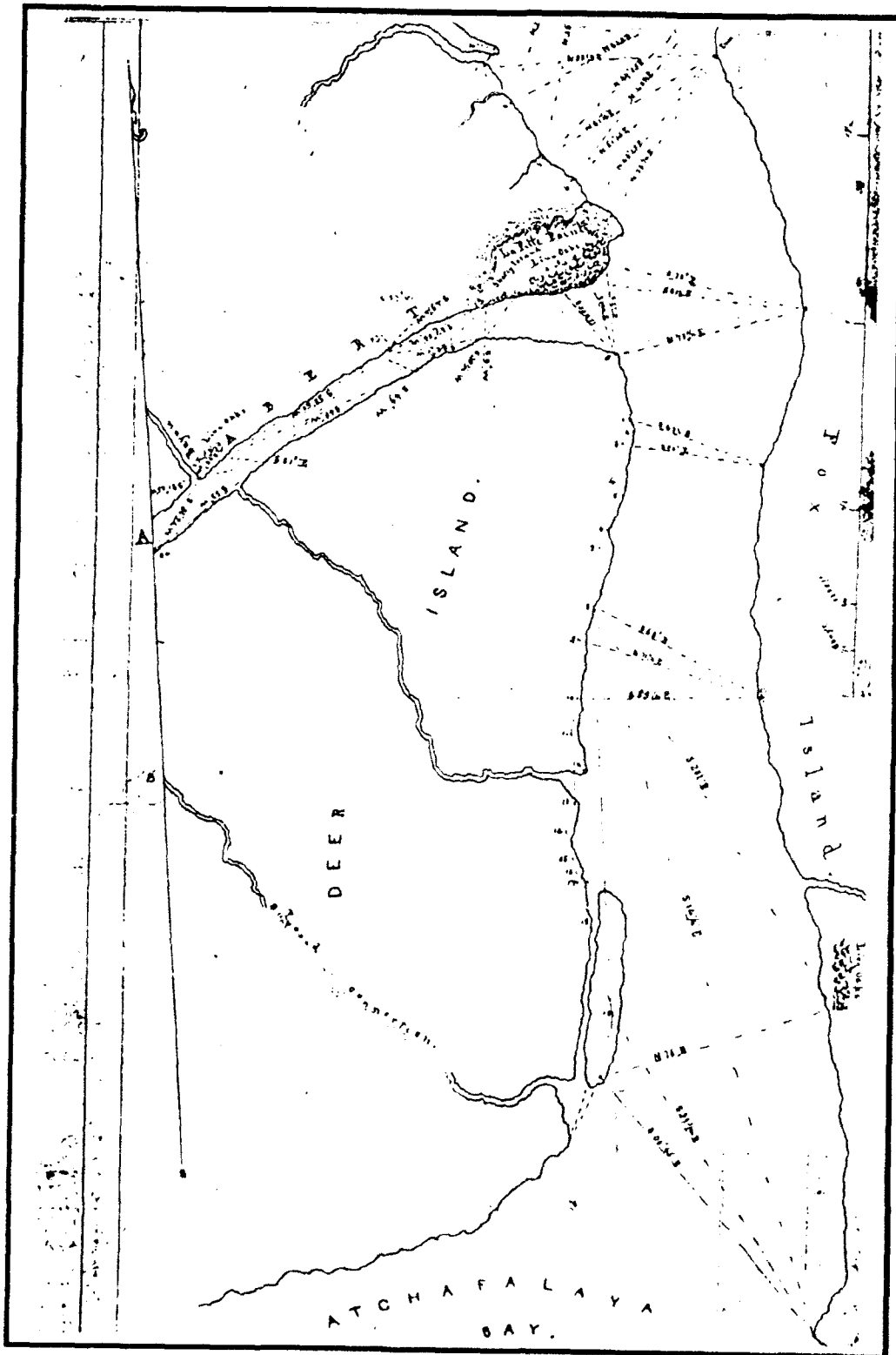


Figure 3-1. La Fitte Point at Shelly Island. (After Williams 1842:51.)

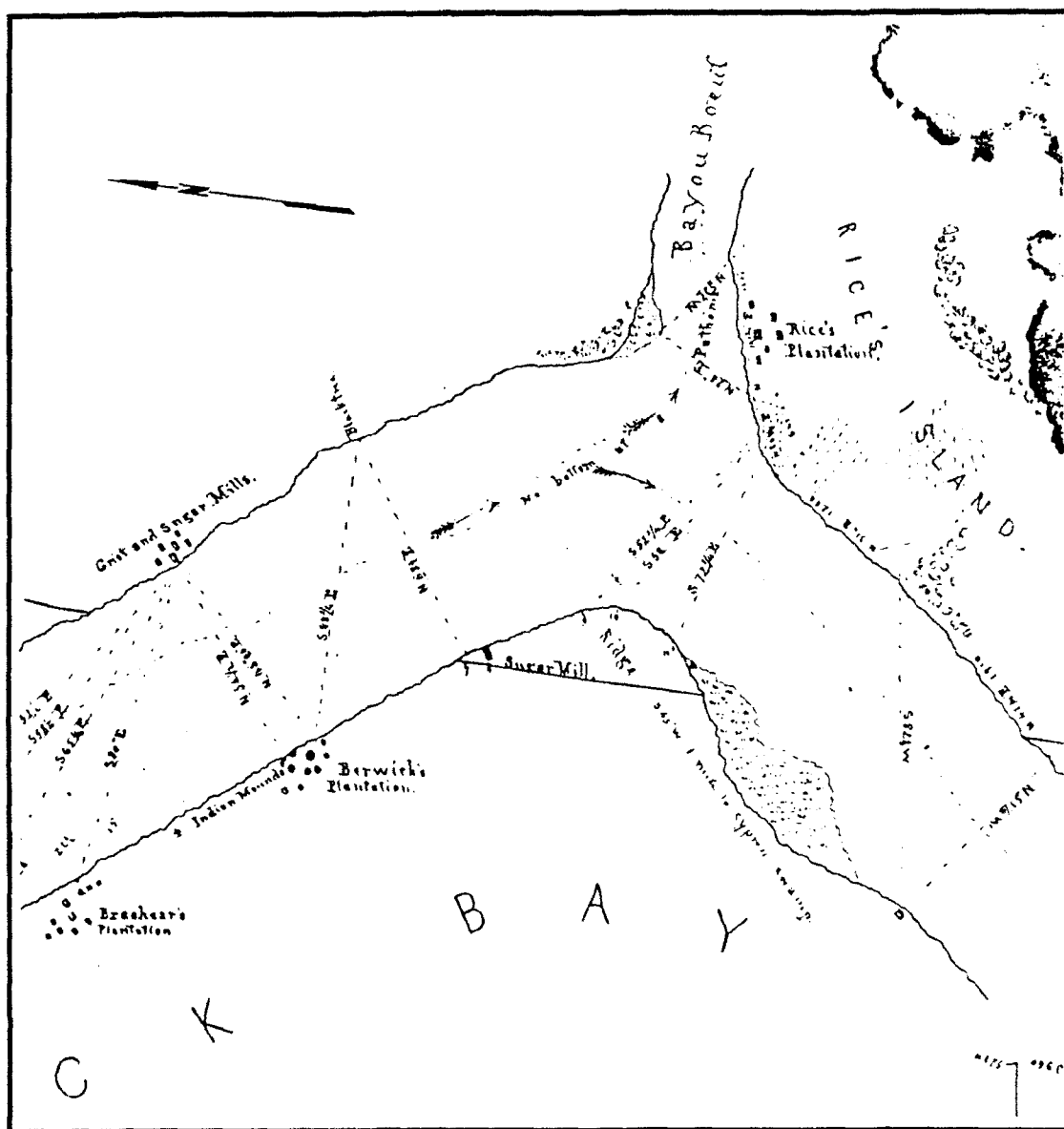


Figure 3-2. Southern end of Berwick Bay showing location of the Berwick Mounds.
(After Williams 1842:56.)

Some there are, who attribute the design of these mysterious hills to a security against the annual overflows of the Mississippi; but this is absurd. As on Burwick's Bay, for instance, where stands the most remarkable one in the state, it is pitched upon the highest land, which, even with the greatest overflow ever known, has never been covered with water [Pierce 1851:602]

The fact that Pierce notes only one mound suggests that the other three had been destroyed by 1851. Their demise probably resulted from the combined efforts of man and nature, as development around Berwick Plantation and erosion from the river took their toll.

In addition to the mound at Berwick, Pierce (1851:601-602) notes mounds in nearby Terrebonne Parish, including one rather impressive group on Bayou Black:

In the Parish of Terrebonne there are at least fifteen or twenty of these mounds, situated on the Bayous Grand and Petit Caillous, Terrebonne, and the Black, of various sizes, and from appearances, of various dates. But the most remarkable of these is at Tigerville, about twenty-five miles from Houma, on the Bayou Black. From these mounds, which are undoubtedly the work of man, several skulls and bones of a human body have been picked, whence it is generally inferred, that they are or have been a repository of the dead, as were the celebrated pyramids of Egypt, and the mausoleums and temples of antiquity.

The site at Tigerville is known today as the Gibson Mounds (16 TR 5), and will be discussed in more detail later. Along with the inhabitants at the Berwick Mounds, the aboriginal residents at Gibson must have played a key role in directing settlement and political control over the region.

The next reference to sites in the study area comes from a Confederate map of St. Mary Parish produced during the Civil War (Figure 3-3). Two Indian mound locations are shown along the west side of Berwick Bay. One mound was obviously the surviving member of the Berwick group. It is shown north of the railroad tracks crossing the area and described as having been leveled. The second mound is shown farther north in the present location of the Fairview Plantation Mound, already briefly discussed. Adjacent to this latter mound is the statement, "Mound from which the Yankees can be seen in their camp."

Further reference to the remaining mound at Berwick comes from J. W. Foster (1873) in his book *Pre-Historic Races of the United States of America*. Using notes supplied by Caleb Forshey (Neuman 1984:17-18), Foster notes that an extremely large mound once stood on the west side of Berwick Bay, was built of shells and loam, and stood some 20 ft high. Foster further related that this mound was destroyed by Union troops in 1863 because Confederate forces used it for cover from which to fire at Union ships (Foster 1873:159).

Following Foster's publication, a long hiatus occurred before any additional mention of sites in the region was provided. In 1926, Henry B. Collins of the U.S. National Museum spent almost three months examining sites across coastal Louisiana. A brief summary of his survey appeared the following year (Collins 1927). The section pertinent to the present study is presented below:

From Pointe a la Hache, Mr. Collins proceeded to Houma, in Terrebonne Parish, and examined a number of mounds and shell middens. There he was fortunate in having the co-operation of Mr. Randolph A. Bazet, who is deeply interested in the local archeology and who was able to supply valuable information on many earth mounds and shell deposits of Terrebone Parish. Such remains were found in unexpected numbers along the lakes and bayous, ranging from comparatively small accumulations of shells mixed with charcoal, potsherds, bones, and other refuse to huge deposits of the same material, or "islands" as they are locally called, sometimes a hundred yards or more wide, about 10 feet above the marsh level, and extending in some cases for a distance of almost a quarter of a mile. These Terrebonne Parish shell heaps, or kitchen middens, and the others throughout southern Louisiana, are composed almost entirely of the shells of a small brackish water clam, *Rangia cuneata*, which is very common in the bayous and lakes of the Gulf region. They represent merely the accumulated kitchen refuse of the Indians who once



Figure 3-3. Portion of a Civil War-era map of St. Mary Parish, showing plantations, towns, fortifications, and Indian mounds. (After Confederate States of America 1864.)

lived along these water ways. The clams were eaten, and the shells, along with other trash, were cast aside until in the course of time an extensive heap was formed.

After devoting some 10 days to the mounds and shell heaps of Terrebonne Parish, investigation was made of those to the west and north at Gibson, Lake Palourde, Bayou l'Ours, Berwick, Charenton and Avery Island. Having examined and carried on minor excavations at these localities, Mr. Collins continued westward to Pecan Island in the southern part of Vermillion [*sic*] Parish where he remained for three weeks [Collins 1927:200-202].

Included in Collins' summary is an excellent photograph of the mound on Fairview Plantation. This photograph was reproduced by Weinstein et al. (1978:Fig. 55) in their discussion of that site. The photograph shows an almost conical-shaped structure topped by a burial vault of modern vintage. According to the present owner of Fairview Plantation, the mound reportedly was torn down in the early 1930s (Weinstein et al. 1978:161). The former mound location has been assigned site number 16 SMY 148, while a nearby shell midden, which undoubtedly was once part of the overall site, has been identified as 16 SMY 149 (Weinstein et al. 1978).

Following Collins' brief survey and discussion, approximately 30 years elapsed before any other published work dealt with the study area. This was the landmark survey performed by William G. McIntire (1958) of Indian sites and their relation to changing courses of the Mississippi River and its distributaries. The 30-odd-year hiatus between Collins' survey and McIntire's study was a reflection of the lack of work in and around the study area, but was not typical of other regions in Louisiana and the rest of the southeastern United States. Elsewhere, archeological research jumped ahead at a pace never before seen. Primarily the result of Work Projects Administration (WPA) funding, provided in an effort to put the unemployed to work during the Depression years of the 1930s and early 1940s, numerous sites were tested, excavated, and, importantly, reported upon. Through the extensive work of Ford (1935, 1936, 1951), Kniffen (1936, 1938), Ford and Willey (1940), Ford and Quimby (1945), Quimby (1951, 1957), Ford et al. (1955), and Ford and Webb (1956), archeological research had come of age in Louisiana.

A basic sequence of culture periods was established, modified slightly as new data became available, and used to arrange the myriad of sites by time and assumed cultural connections. Thus, by 1958, when McIntire produced his synthesis of coastal Louisiana, a generally reliable set of culture periods had been identified, along with the diagnostic artifacts (primarily ceramic types) used in period identification. McIntire took advantage of this new-found wealth in data, and was able to classify his sites not only by type, such as shell midden or earth mound, but by culture period(s) present. These data were then used to help reconstruct the paleogeography of the region.

McIntire (1958:Pl. 2) illustrated approximately 61 sites for the general study area, of which many could be identified by the components present (McIntire 1958: Pls. 3-8, Pl. 12). Table 3-1 summarizes the data supplied by McIntire. In addition, McIntire (1958:Fig. 8) provided a cross section through the Gibson Mounds (16 TR 5), based on auger boring data, showing that the mounds had been built over a shell midden base. The shell midden was intermixed with Red River sediment, contained Marksville period ceramics, and led McIntire (1958:63-64) to suggest that the Boeuf course of the Red River was flowing down the old Teche-Mississippi channel during Marksville times. Because many of the sites noted by McIntire were revisited and/or their artifacts reanalyzed, his data on each will be reviewed in detail later in this study.

Table 3-1. Sites in the Study Area, Based on Data from McIntire (1958).

SITE NO.	COMPONENTS PRESENT	COMMENTS	REFERENCES IN MCINTIRE (1958)
16 SMY 14	Troyville Plaquemine	Shell midden	Pls. 2, 5, 8
16 SMY 1	No Data	Shell midden	Pl. 2
16 SMY 19	No Data	Earth mound	Pl. 2
16 SMY 20	No Data	Earth mound	Pl. 2
16 SMY 22	No Data	Shell midden	Pl. 2
16 SMY 23	No Data	Shell midden	Pl. 2
16 SMY 25	No Data	Shell midden	Pl. 2
16 SMY 39	No Data	Beach deposit	Pl. 2
16 TR 1	Marksville	Earth mound	Pls. 2, 4, 13
16 TR 3	No Data	Shell midden	Pl. 2
16 TR 4	Troyville Coles Creek Plaquemine	Shell midden. Contains Moundville-like ceramics	Pls. 2, 5, 7, 8, 10, 12, 13, p. 73
16 TR 5	Marksville Troyville Coles Creek Plaquemine	Earth mound on shell midden base	Pls. 2, 4, 5, 7, 8, 12, 13, pp. 63-64
16 TR 8	Plaquemine	Shell midden	Pls. 2, 8, 10, 12, 13
16 TR 19	Troyville Coles Creek Plaquemine	Earth mound on shell midden base	Pls. 2, 5, 6, 7, 8, 10, 12, 13, p. 72
16 TR 20	Plaquemine	Shell midden	Pls. 2, 12
16 TR 21	No Data	Shell midden	Pl. 2
16 TR 24	Plaquemine	Shell midden	Pls. 2, 12
16 TR 25	No Data	Shell midden	Pl. 2
16 TR 27	No Data	Shell mound	Pl. 2
16 TR 28	No Data	Shell midden	Pl. 2

(continued)

Table 3-1. continued.

SITE NO.	COMPONENTS PRESENT	COMMENTS	REFERENCES IN MCINTIRE (1958)
16 TR 29	No Data	Shell midden	Pls. 2, 10
16 TR 30	No Data	Shell midden	Pl. 2
16 TR 31	No Data	Shell midden	Pl. 2
16 TR 36	No Data	Beach deposit	Pl. 2
16 TR 40	No Data	Shell midden	Pl. 2
16 TR 41	No Data	Shell midden	Pl. 2
16 TR 42	Plaquemine	Shell midden. Contains Moundville-like ceramics.	Pls. 2, 8, 12, 13
16 TR 43	Troyville Coles Creek	Shell midden	Pls. 2, 5, 6, 7, 12, 13
16 TR 44	No Data	Shell midden	Pl. 2
16 TR 45	No Data	Shell midden	Pl. 2
16 TR 46	No Data	Shell midden	Pl. 2
16 TR 47	Troyville Coles Creek Plaquemine (?)	Shell midden. Shown on Plaquemine map (Pl. 8), but no Plaq. ceramics listed (Pl. 13).	Pls. 2, 5, 7, 8, 12, 13
16 TR 48	No Data	Shell midden	Pl. 2
16 TR 49	No Data	Shell midden	Pl. 2
16 TR 50	No Data	Shell midden	Pl. 2
16 TR 51	No Data	Shell midden	Pl. 2
16 TR 52	Plaquemine	Shell midden	Pls. 2, 12
16 TR 53	No Data	Shell midden	Pl. 2
16 TR 54	Plaquemine	Shell midden	Pls. 2, 12
16 TR 55	No Data	Shell midden	Pl. 2
16 TR 56	No Data	Shell midden	Pl. 2
16 TR 57	No Data	Shell midden	Pl. 2
16 TR 58	No Data	Shell midden	Pl. 2

(continued)

Table 3-1. concluded.

SITE NO.	COMPONENTS PRESENT	COMMENTS	REFERENCES IN MCINTIRE (1958)
16 TR 59	No Data	Shell midden	Pl. 2
16 TR 60	Troyville	Shell midden	Pls. 2, 5, 6, 10, 12, 13
16 TR 64	No Data	Shell midden	Pl. 2
16 TR 65	Coles Creek Plaquemine	Shell midden	Pl. 2
16 TR 66	Troyville Coles Creek Plaquemine	Shell midden. Contains Moundville-like ceramics. Historic cemetery atop site.	Pls. 2, 5, 7, 8, 12, 13, p. 73
16 TR 67	No Data	Shell midden	Pl. 2
16 TR 68	No Data	Shell midden	Pl. 2
16 TR 69	No Data	Shell midden	Pl. 2
16 TR 70	Troyville	Shell midden	Pls. 2, 5
16 TR 71	Plaquemine	Shell midden. Contains Moundville-like ceramics.	Pls. 2, 8, 12, 13
16 TR 73	Marksville Troyville Coles Creek Plaquemine	Shell midden	Pls. 2, 4, 5, 6, 7, 8, 12, 13
16 TR 75	No Data	Shell midden	Pl. 2
16 TR 76	Troyville Plaquemine	Shell midden	Pls. 2, 5, 8, 12, 13
16 TR 77	Troyville	Shell midden	Pls. 2, 5, 12, 13
16 TR 78	Troyville Plaquemine	Shell midden	Pls. 2, 5, 6, 8
16 TR 82	No Data	Earth mound. Site number assigned after McIntire's survey.	Pl. 2
16 TR 85	No Data	Shell midden. Site number assigned after McIntire's survey.	Pl. 2
16 TR 103	No Data	Beach deposit. Site number assigned after McIntire's survey.	Pl. 2

Another short hiatus occurred following McIntire's study before sites in the study area again were discussed by Philip Phillips (1970) in his monumental synthesis of Lower Mississippi Valley archeology. Although concerned primarily with the lower Yazoo Basin in western Mississippi, Phillips devoted a significant portion of his study to the establishment of cultural phases for the Lower Valley. This followed the ideas earlier proffered by he and Gordon Willey (Phillips and Willey 1953; Willey and Phillips 1958).

Based primarily upon sherd counts provided by McIntire, Phillips was able to tentatively assign sites in the study area to the various phases he recognized. Thus, sites of the Marksville, Baytown (McIntire's Troyville), Coles Creek, and Mississippi (McIntire's Plaquemine) periods are discussed and illustrated (Phillips 1970:899-900, 911-912, 920-922, 949-951, Figs. 444, 445, 446, 447). One site of particular importance was Mandalay Plantation (16 TR 1) which Phillips (1970:899) set up as the type site of the Mandalay phase of the Marksville period.

It is with Phillips' (1970) report that the era of research in general culture history can be brought to a close and that of "contract archeology" or "cultural resources management" initiated in the study area. Many of these studies amount to no more than a page or two in a "letter report" submitted to a specific agency and contain only enough information necessary for permit or project review. Yet others are volumes of excellent scientific research that are a credit to the discipline of archeology. Many others fall somewhere in between. Numerous archeologists have directed pages of discussion to a review of many of these studies (Gibson 1978b, 1979, 1982; Goodwin et al. 1985a; Weinstein et al. 1978), and such a narrative summary is not considered necessary at this point. Rather, Table 3-2 provides a list of all archeological work within the study area from 1970 to 1986. Several of the more important of these works are discussed further below, beginning with the survey of the Gulf Intracoastal Waterway (GIWW) by Gagliano et al. (1975).

The 1975 survey by CEI (Gagliano et al. 1975) of the GIWW was the first large-scale, intensive survey to cross the present study area since McIntire's research in the 1950s. Because of its very nature, actual survey coverage was limited to the banks of the waterway. Nevertheless, sites within 1 mi of the GIWW also were reviewed. Data on each site were presented in modified site forms included in the final report (Gagliano et al. 1975:68-228). No testing was performed, but recommended treatment of locales was provided. Perhaps the most useful contribution of the study was the presentation of a revised sequence of delta lobe formation and associated archeological sites (Gagliano et al. 1975:46-57). However, this sequence no longer is followed by most researchers in the area (Saucier 1981; Smith et al. 1986; Weinstein and Gagliano 1985).

In 1978, three highly important reports, based on federally mandated surveys, appeared (Altschul 1978; Gibson 1978b; Weinstein et al. 1978). Each survey was performed for a different agency and each had a specific, rather restricted survey corridor in which to work, yet each provided some of the most useful data to come out of the region. Each study also marked the very first time that a site, or series of sites, was tested by professional archeologists, and the test results presented in the final report. It may be stated, therefore, that these three studies represent the modern foundation upon which subsequent research in the Morgan City and Terrebonne marsh areas will be built.

Of the three studies, that by Weinstein et al. (1978) was the first to begin (December 1976) and the first to be finalized (January 1978). It consisted of an intensive terrestrial survey of the proposed relocation route of U.S. 90 and an inspection of sites within approximately 1.5 km of the route (Weinstein et al. 1978:1). Detailed discussions on each of the 30 recorded sites, including artifactual analyses, are included. Assumptions of components present at each site are offered, following the phase terminology established by Phillips (1970) for prehistoric

Table 3-2. Cultural Resources Investigations within the Study Area since 1970.

INVESTIGATOR(S)	DATE	LOCATION	SPONSOR	COMMENTS
Byrd, Kathleen	1972	Bayous Boeuf, Black, and Chene	New Orleans District, U.S. Army Corps of Engineers (USCE)	Reconnaissance survey. Seven sites (16 AS 19, 20, 16 SMY 20, 44, 45, 16 TR 83, 84) briefly discussed.
Neuman, Robert W.	1973	Coastal Louisiana	National Park Service, U.S. Department of the Interior	Literature review, reconnaissance level survey. Numerous sites listed for Assumption, St. Mary, and Terrebonne parishes. Most of data from site forms and McIntire (1958).
Gulf South Research Institute	1975	Terrebonne, Lafourche, Jefferson, and Plaquemines parishes	Louisiana Interstate Gas Corporation	Intensive survey of proposed pipeline route. Only extreme western end in study area. Three sites recorded on levees of Bayou Black. Sites never received state site numbers.
Gagliano, Sherwood M., Richard A. Weinstein, and Eileen K. Burden	1975	Louisiana portion of Gulf Intracoastal Waterway (GIWW)	New Orleans District, USCE	Intensive, water-borne survey of GIWW. Twenty-six sites noted in, and adjacent to, the study area. Many sites not visited. Reconstruction of delta lobe sequence offered.
Neuman, Robert W.	1976	Assumption, Terrebonne, and Lafourche parishes	Unknown	Letter report of pipeline survey from Humphreys to Donaldsonville. Negative results.
Neuman, Robert W. and A. Frank Servello	1976	Atchafalaya Basin	New Orleans District, USCE	Intensive survey of selected levee segments and general survey of remainder of basin. One site (16 TR 88) located in present study area, but identified as 16 SMY 34. Nine other sites recorded adjacent to study area.

(continued)

Table 3-2. continued.

INVESTIGATOR(S)	DATE	LOCATION	SPONSOR	COMMENTS
Neuman, Robert W.	1977	Coastal Louisiana	Museum of Geoscience, Louisiana State University	Published version of Neuman's 1973 study on coastal Louisiana (see above).
Altschul, Jeffrey H.	1978	Terrebonne and Lafourche parishes	Region VI, U.S. Environmental Protection Agency	Intensive survey and testing of 33 sites in proposed sewerage-line corridors. Twelve of the 33 sites in project area. Excellent summary of data and presentation of models of prehistoric settlement and social organization.
Gibson, Jon L.	1978a	Bayou Shaffer, St. Mary Parish	Keystone General Contractors, Ltd.	Examination of the Shaffer Oak Ridge site (16 SMY 50). Site declared eligible for the National Register.
Gibson, Jon L.	1978b	Lower Atchafalaya River area--Assumption, St. Mary, and Terrebonne parishes	New Orleans District, USCE	Intensive survey of proposed channel enlargement sections along bayous Chene, Black, Boeuf, and Avoca Island Cutoff. Detailed description of culture history, environment, and 43 sites. Includes section on geological cores taken at selected sites.
Davis, Dave D.	1978	Assumption Parish	Steimle, Smalley & Assoc., Inc.	Intensive survey of proposed plant expansion area along backslope of Bayou Boeuf natural levee. Most of area in swamp. No sites found, but several nearby sites mentioned.
Weinstein, Richard A. Eileen K. Burden, Katherine L. Brooks, and Sherwood M. Gagliano	1978	Assumption, St. Mary, and Terrebonne parishes	Louisiana Office of Highways	Intensive survey of proposed route of U.S. 90. Thirty sites located or described. Test excavations at 16 SMY 133, 16 AS 35, and mound profiling at 16 TR 5.

(continued)

Table 3-2. continued.

INVESTIGATOR(S)	DATE	LOCATION	SPONSOR	COMMENTS
Gibson, Jon L.	1979	Atchafalaya Basin	New Orleans District, USCE	Extensive review of previous archaeological research within the entire Atchafalaya Basin and surrounding regions. Discussions on excavated sites, radiocarbon dates, technology, subsistence, settlement. Offers suggestions for future research.
Rivet, Philip G.	1979	Terrebonne Parish	Louisiana Office of Highways	Memorandum on survey of nine bridge replacement locations along LA 20. Negative survey results.
McIntire, William G.	1981	Terrebonne Parish	Dames and Moore, Inc.	Intensive aerial and terrestrial survey of proposed pipeline route. Site 16 TR 36 reportedly in route ROW, but could not be relocated. No other sites found.
Jon L. Gibson	1982	Atchafalaya Basin and adjacent lands	New Orleans District, USCE	Detailed review and synthesis of previous geological, cultural, and ecological studies and conditions in the Atchafalaya Basin. Intensive survey of selected levee segments and revisit and testing of many sites in those segments. Six sites (16 SMY 39, 51-54, and 130) noted along Bayou Shaffer. Seven others northwest of Berwick Bay.
McIntire, William G. and Robert H. Baumann	1984	Terrebonne Parish	Tenneco Oil Co.	Intensive examination of proposed weir location near Marmande Ridge. Site 16 TR 69 nearby. Site tested but could not determine if material was in situ.

(continued)

Table 3-2. concluded.

INVESTIGATOR(S)	DATE	LOCATION	SPONSOR	COMMENTS
Gibson, Jon L.	1985	Assumption Parish	Arco Oil and Gas Co.	Intensive investigation of planned bulkhead along Bayou Chene near reported location of site 16 AS 20. Could not relocate site due to heavy industrialization of area.
Goodwin, R. Christopher, Jill Karen Yakubik, Galloway W. Selby, and Kenneth R. Jones	1985	Morgan City, St. Mary Parish	New Orleans District, USCE	Intensive survey of proposed hurricane protection project. Extensive historical background review. Testing of one site in project area, 16 SMY 1, a late Coles Creek period shell midden.
McIntire, William G. and Robert H. Baumann	1985	Terrebonne Parish	Tenneco Oil Co.	Intensive survey of proposed water control structures near Lake Carrion Crow. One site, 16 TR 66, located nearby. Site tested and found to be 2.4 m above marsh level and 3 m below marsh level.

locales. Two sites, Thibodaux (16 AS 35) and Bayou Ramos I (16 SMY 133), were tested to determine areal extent or National Register significance since they were located either within or immediately adjacent to the highway ROW. A combination of 1-by-1-m test units, auger borings, and surface collections provided the basic testing data. A third site, Gibson Mounds (16 TR 5), was examined superficially after it was discovered that one of the three mounds at the site had been cut in half to make room for a proposed mobile home park. The survey crew was allowed to clear and record a profile of the remaining mound remnant and collect surface artifacts from the site.

At all three sites either *Rangia* shells or charcoal samples were collected, and subsequently radiocarbon dates were obtained from several of the samples. These dates mark the first time that absolute ages were obtained from any site in the Morgan City-Terrebonne marsh region. Based on a series of four dates from the Bayou Ramos I site, along with an analysis of ceramics from the test pits, the authors subdivided the Bayou Cutler phase of the Coles Creek period, retaining the term Bayou Cutler for the early half of the period and establishing Bayou Ramos as the phase for the latter half.

Another step taken by Weinstein et al. (1978) was to accorded historic-period sites and components equal status as prehistoric locales. This procedure previously had not been carried out in the region, and, in fact, had hardly been considered in the remainder of Louisiana's coastal zone.

The second of the 1978 studies was performed by Jon Gibson and his associates at the University of Southwestern Louisiana (Gibson 1978b). Fieldwork, consisting of survey, testing, and coring phases, began in March 1977 and terminated in November 1977. The survey portion of the study intensively covered proposed channel enlargement sections along bayous Chene, Black, Boeuf, and the Avoca Island Cutoff. Forty-three site locations were either discovered or revisited. Detailed descriptions of the recovered material, along with site conditions, and estimates of site size are presented in the report. One 1-by-1-m test pit was excavated at Oak Chenier (16 SMY 49) and uncovered a human burial at a depth of between about 70 and 95 cm (Gibson 1978b:129-130). Eight sites additionally were subjected to a program of coring to determine their environments of deposition. Seventy-four cores were taken, but, because of a lack of time, only eight cores from seven sites (16 TR 104, 105, 109, 110, 16 SMY 49, 62, and 63) were analyzed and included in the final report (Truax and Nault 1978). Unfortunately, nowhere in his report does Gibson (1978b) present a map showing either site locations or core locations within a particular site, thus making it extremely difficult to assess his coring results. Similarly, no radiocarbon dates were obtained on any of the numerous components located, thus requiring total reliance on ceramic analysis for estimates of site age.

On the positive side, Gibson's (1978b) study was the first in the area to provide detailed zooarcheological analyses of certain sites (Byrd 1978), discussions based on statistical analysis of the relative locations of sites (Gibson and Gramling 1978), and a model of lower Atchafalaya Basin subsistence strategies (Gibson et al. 1978). As will be seen, because many of the sites examined during the present study were initially discussed in Gibson's (1978b) report, the authors will have many opportunities to reference the study.

The third report of the 1978 triumverate, is by Altschul (1978) and concerns a testing program conducted by New World Research, Inc., of 33 previously known sites within proposed sewerage line routes throughout much of Terrebonne and Lafourche parishes. Fourteen of the sites are either within or immediately adjacent to the present study area. Of these, most are along Bayou du Large. Extent of each site, both horizontal and vertical, was determined through visual examination and shovel tests. If warranted, additional 1-by-1-m test

pits were excavated to clarify site integrity and stratigraphy (Altschul 1978:39). Excellent sketch maps were produced on each site.

As might be expected, Altschul's (1978) report is a wealth of important information on each of the sites investigated. Despite the excavation of a total of 14 1-by-1-m test pits at nine sites, no radiocarbon dates were obtained to help bolster the chronological placement of the various components uncovered. This problem becomes particularly noticeable when Altschul (1978:177-189) presents his model of Plaquemine culture settlement in the region. Sites were seriated apparently using Plaquemine ceramics from all contexts (test pits, shovel holes, surface collections), regardless of whether or not individual components could be recognized. Thus, even if a site actually was inhabited by several Plaquemine groups over hundreds of years, each potential assemblage is viewed as one static entity. There is no method for identifying individual components of short duration that would have been part of the Plaquemine culture. Therefore, Altschul's (1978:186-189) conclusion that the Terrebonne marsh area was inhabited by two chronologically separate cultures during Plaquemine times, with the earlier group conducting seasonal exploitation of the region through the use of a modified form of the seasonal round and the later living in permanent villages or dispersed homesteads, is highly questionable. Regardless, Altschul proposed a settlement model which needs to be assessed through further testing, and supplied valuable site-specific data of use in future investigations.

The next major report to consider sites in the study area was Gibson's (1979) review of previous research throughout the entire Atchafalaya Basin and surrounding regions. The study, based solely on literature research, provides an excellent, critical review of past investigations and, importantly, summarizes all excavated sites, radiocarbon dates, and technology, subsistence, and settlement data. Particularly relevant to the present study is Gibson's (1979:110-115) review of the work conducted at Thibodaux (16 AS 35), Bayou Ramos I (16 SMY 133), Gibson Mounds (16 TR 5), and Oak Crenier (16 SMY 49).

Three years following his 1979 review, Gibson (1982) again conducted fieldwork in the Atchafalaya Basin. In this instance, selected portions of levees ringing the basin were intensively surveyed and sites located in potential impact areas were tested. While data produced from these testing programs is extremely important to south Louisiana archeology, none of the sites are in the present study area. Perhaps the most useful aspect of the study from the point of view of the present research, is the detailed descriptions provided on previous investigations, culture history, and ethnology of the Atchafalaya Basin.

Lastly, a recent survey of the Morgan City hurricane protection project (Goodwin et al. 1985a) should be noted, although the project technically falls outside of the present study area. That study provides a detailed review of the history of the Morgan City area, but is of particular importance for the data obtained from a testing program at the Goat Island site (16 SMY 1). This extensive shell midden was tested through the use of four 1-by-2-m excavation units. Although little artifactual data were collected, three radiocarbon dates clustering around A.D. 1100 were obtained on *Rangia* shells and charcoal from two of the units (Goodwin et al. 1985a:Table 8). Using these dates, plus previous ceramic counts provided by Weinstein et al. (1978), the authors review the chronology of Coles Creek period components in the region. While a good deal of effort is devoted to a reconciliation of the approximate 200-year discrepancy between the dates from Goat Island and those from Bayou Ramos I (16 SMY 133), as presented earlier by Weinstein et al. (1978), and a case is made for contemporaneity between the two sites (Goodwin et al. 1985a:110), it seems probable, rather, that more than one component exists at Goat Island. The few diagnostic sherds noted by Weinstein et al. (1978) could relate to either the Bayou Cutler or Bayou Ramos phase, while the dates obtained by Goodwin et al. (1985a) would suggest another component either of, or related to, the transitional Coles Creek/Plaquemine culture St. Gabriel phase (Brown 1985b;

Weinstein 1987b). Whatever the eventual case may be, the Goodwin et al. (1985) report is only the second in the region to supply absolute dates, and for that alone it is highly valuable.

Culture Chronology

This section presents a review of the various cultures which once inhabited the study area. For convenience it is divided into two main segments: prehistory and history.

Prehistory

Figure 3-4 provides the latest chronological framework of the prehistory of the Louisiana coastal zone, based on Weinstein (1985). Since the earliest intact and accessible landforms within the study area are related to the Teche-Mississippi course and its distributaries (ca. 3800 to 1900 B.C.), the following discussion will begin with the earliest culture period which was in existence during that time: the Middle Archaic. It is recognized that earlier Paleo-Indian and Early Archaic components are known from the coastal zone (see, for instance, Coastal Environments, Inc. 1977; Gagliano 1967, 1970; Weinstein et al. 1979b), but these generally occur in areas where relict Pleistocene-age, Prairie Terrace features are being exposed by shoreline transgression or on uplifted salt dome islands. Such features are deeply buried within the present study area and are not expected to be encountered in anything but relatively deep borings.

By way of background, it should be noted that the previous Paleo-Indian and Early Archaic populations are believed to have been arranged around a band-level society which practiced hunting and gathering of wild foodstuffs, probably organized around a seasonal round in which specific periods of the year were devoted to the collection of a particular resource. It is believed the Paleo-Indians were adapted to terminal Pleistocene or early Holocene environments, while Early Archaic peoples were adapted to an expanding boreal forest environment (Weinstein and Kelley 1984:32-34). Lithic tools, principally in the form of distinctive projectile point types, are the major means, if not the only means, archeologists have for identifying remains of these earlier periods.

Middle Archaic Period, 5000-3000 B.C.

The Middle Archaic period is characterized by widespread regional differentiation of cultures, and a number of developments in ground stone technology. The latter includes grooved axes, atlatl weights and pendants, as well as more extensive use of grinding stones, which first appeared in the previous period. This period also roughly corresponds with the Hypsithermal Interval which brought increased warmth and aridity to areas bordering the Great Plains (Wood and McMillan 1976). The impact of this climatic shift on other portions of the Southeast is not well known at present. It may be that the intensive shellfish collecting evidenced at some riverine sites of this period represents a response to this change (Lewis and Lewis 1961:20). Stoltman (1978:714-715) has also suggested that plant collecting increased in importance during this time.

In coastal Louisiana, very little evidence of the Middle Archaic period has been recognized. What there is comes generally from the Florida Parishes north of Lake Pontchartrain and in the Prairie Terrace region of southwestern Louisiana. Three regional phases have been identified, Monte Sano, Amite River, and Banana Bayou, but all are somewhat removed from the area under consideration. Perhaps components of the Banana Bayou phase, named for a small conical mound (16 IB 24) situated on the flanks of Avery Island, and which produced material and radiocarbon dates suggestive of a transitional Middle to Late Archaic age (Gagliano 1967; Brown and Lambert-Brown 1978), will eventually be found in the area. Artifacts recovered from the primary mound at Banana Bayou included

STAGE	PERIOD	CULTURE	TIME INTERVAL	PHASES		
				Eastern Area	Central Area	Western Area
Formative	Historic	Various Cultures	PRESENT A.D. 1750	Various Tribes		
			A.D. 1700			Little Pecan
	Mississippi	Mississippian Plaquemine	A.D. 1600	Delta Natchezan	Petite Anse	
			A.D. 1500	Medora Bayou Petre Barataria	Burk Hill	Bayou Chene
			A.D. 1200			
	Coles Creek	Transitional Coles Creek	A.D. 1000	St. Gabriel	Three Bayou	Holly Beach
		Coles Creek	A.D. 900	Bayou Ramos	Morgan	Jeff Davis
			A.D. 850	Bayou Cutler	White Lake	Welsh
			A.D. 700			
	Baytown	Troyville-like	A.D. 400	Whitehall	?	Roanoke
	Marksville	Marksville	A.D. 200	Gunboat Landing Magnolia & Mandalay Smithfield LaBranche	Veezey Jefferson Island	Lake Arthur Lacassine
	Tchula	Tchefuncte	A.D. 1 250 B.C. 500 B.C.	Beau Mire Pontchartrain	Lafayette	Grand Lake

Figure 3-4. Cultural chronology of south Louisiana. (After Weinstein 1985.)

STAGE	PERIOD	CULTURE	TIME INTERVAL	PHASES		
				Eastern Area	Central Area	Western Area
Archaic	Poverty Point	Poverty Point	500 B.C.			
			1000 B.C.	Garcia	Beau Rivage	?
				Bayou Jasmine	Rabbit Island	
	1500 B.C.					
	Late Archaic	Archaic		Pearl River	Copell	Bayou Blue
	3000 B.C.					
			Middle Archaic	Monte Sano	Banana Bayou	?
	5000 B.C.					
Early Archaic		Amite River				
Lithic	Late Paleo	Paleo-Indian	6000 B.C.	St. Helena	?	?
			8000 B.C.	Jones Creek	Vatican	Strohe
	Early Paleo		?	Avery Island	?	
	Pre-Projectile Point	?	10,000 B.C.			
				?	?	?

Figure 3-4. concluded.

Williams and Pontchartrain points, crude bifaces, lithic debitage, and a relatively large percentage of amorphous baked clay objects (Brown and Lambert-Brown 1978:Table 5).

Closer to the study area, and of immediate importance to the Teche-Mississippi course, is the location of site 16 IB 101 on the edge of the Prairie Terrace overlooking the Teche channel just south of New Iberia. This site reportedly has a Middle Archaic component (Coastal Environments, Inc. 1977:3:Pls. 4-5) and may represent an elevated habitation locale associated with the active Teche-Mississippi.

Late Archaic Period, 3000-1500 B.C.

Research elsewhere in eastern North America suggests that the Late Archaic period was a time of marked population increases and the beginning of extensive trade networks. The evidence for the former is seen in the appearance of large habitation sites such as Indian Knoll, Kentucky (Webb 1946), while the latter is reflected in the exotic raw materials which occur at some sites. Plant cultivation involving a tropical domesticate, squash, and possibly native North American species also began during this period (Chomko and Crawford 1978).

In coastal Louisiana, three geographically separated phases have been identified, but only the Pearl River phase, based on material from the Cedarland site (22 HA 506) in Hancock County, Mississippi (Gagliano and Webb 1970), is relatively well known. Copell is based on excavations into an apparent preceramic cemetery on Pecan Island (Collins 1941), while Bayou Blue is named for material from a site (16 AL 1) in Allen Parish (Coastal Environments, Inc. 1977; Gagliano et al. 1982; Weinstein et al. 1977, 1979b). Typical diagnostic artifacts include Evans, Ensor, Gary, Maçon, Palmillas, and Pontchartrain point types (Gagliano and Webb 1970; Gibson 1976), along with ground- stone implements such as winged atlatl weights, and tubular pipes (Gagliano and Webb 1970:Table 3).

Gibson (1976) has noted several apparent Late Archaic assemblages from the Prairie Terrace surface around Lafayette, while Weinstein et al. (1979b) record similar sites near Opelousas. Of particular importance to the present study are several Late Archaic sites that apparently are directly associated with Teche-Mississippi natural levees (Gagliano et al. 1978). These are sites 16 SL 16 and 19, reported by Neuman and Servello (1976:24) in the Holocene floodplain east of Opelousas. Their presence is almost certainly related to the Teche channel after the Mississippi had abandoned the course. The fact that such sites exist on the Teche-Mississippi natural levees to the north of the study area implies that similar sites could occur in the Terrebonne marsh region.

Poverty Point Period, 1500-500 B.C.

In much of eastern North America this time interval witnessed a transition from Archaic hunting and gathering cultures to Woodland cultures characterized by food production, pottery manufacture, and mound building (Stoltman 1978:715-717). Current interpretations suggest that these three features have different and possibly unrelated origins. As noted above, tropical domesticates had reached the East prior to 2000 B.C., and there is good evidence of cultivation of native seed plants in the Kentucky and Ohio area by 1000 B.C. (Struever and Vickery 1973). Ceramics probably appeared somewhat earlier than this in the third millennium B.C. along the Atlantic Coast (Stoltman 1978:715), and mound building may have developed independently in several areas by 1000 B.C.

In the Lower Mississippi Valley, this transition is marked by the development of the distinctive Poverty Point culture. Among the material characteristics of this culture are baked clay balls or Poverty Point objects, microlith and lapidary industries, and earthworks (Webb 1977). Presently, neither food production nor pottery manufacture have been definitely

associated with Poverty Point culture. Subsistence data are, in general, few, but they suggest a continuation of an Archaic pattern of intensive collecting of wild plants and animals. It should be noted, however, that two possible associations of squash with Poverty Point occupations have been reported (Ford 1974; Shea 1978).

As with the previous culture periods, several Poverty Point period phases have been established for south Louisiana, but their recognized ranges are either too far east or west to include the present study area. Nevertheless, Poverty Point components have been recognized at a number of sites relatively near the study area, and it is likely that ties to either the Rabbit Island (Phillips 1970:875) or Beau Rivage (Gibson 1974a, 1974b, 1976) phases will be found. In fact, the Rabbit Island site itself (16 SMY 8) is located only about 30 km west of the mouth of the Atchafalaya River, at the distal end of the Bayou Sale distributary, a channel emanating from either the Maringouin- or Teche-Mississippi course (Smith et al. 1986:Pl. 38; Weinstein and Gagliano 1985:123). Other sites with Poverty Point components include Cargill Canal (16 SMY 102) located at the edge of the Belle Isle salt dome (Brown et al. 1979:36-40; Weinstein 1984:11-13; Veatch 1899:299), and site 16 SMY 32 (Coastal Environments, Inc. 1977:3:Pls. 4-5), a locale possibly associated with a Teche-Mississippi distributary (Smith et al. 1986:Pl. 39). Two Poverty Point sites were located in the marshes of Terrebonne Parish during the course of this study and are discussed below.

Tchula Period, 500 B.C.-A.D. 1

This period in the Lower Mississippi Valley is characterized by the integration of food production, pottery manufacture, and mound building into a single cultural system. In the southern portion of the valley these developments take place in an archeological culture called Tchefuncte. Originally defined in southern Louisiana (Ford and Quimby 1945), Tchefuncte culture is now recognized to extend as far north as the vicinity of Clarksdale, Mississippi, and as far west as northeast Texas. The diagnostic artifacts of this and most of the succeeding prehistoric cultures of the Lower Mississippi Valley are the distinctive ceramics. Tchefuncte pottery is characterized by a laminated paste which appears to lack tempering. Replication studies suggest that the laminated texture is simply the result of minimal preparation of the raw material (Gertjeansen 1982; Gertjeansen and Shenkel 1983), an expected feature of an incipient ceramic technology. Other diagnostic attributes of Tchefuncte ceramics include the use of podal supports and decorative techniques such as jab-and-drag incising.

The evidence for food production in Tchefuncte culture presently comes from one site, Morton Shell Mound (16 IE 3), where remains of two tropical cultigens—squash and bottle gourd, and one possible native cultigen, knotweed—were recovered (Byrd and Neuman 1978:11-13). Given the limited nature of these findings, the importance of cultivation in relation to the remainder of the subsistence base is still uncertain. Mound construction, now well documented for the preceding Late Archaic and Poverty Point periods, is surprisingly not clearly associated with Tchefuncte culture. Alan Toth (1988:27-28) has recently reviewed the evidence for Tchefuncte burial mounds and suggested that they are the result of diffusion of certain aspects of Marksville burial practices among a few late Tchefuncte groups. Further research is required to verify this hypothesis.

Again, no specific phase of Tchefuncte culture has been defined for the present study area, and, in fact, no Tchefuncte sites were known from it prior to the current study. It is highly likely, however, given the proximity of the Lafayette phase and its association with the natural levees of the Teche-Mississippi meander belt (Gagliano 1967; Phillips 1970; Gibson 1974b, 1976; Weinstein 1986), that additional components of this phase are present.

The fact that Tchefuncte sites of the Lafayette phase or a similar entity occur within the study area would be particularly interesting since the Lafayette phase is the one relatively

reliable case where conical burial mounds have been associated with the Tchefuncte culture (Gibson 1974b; Weinstein 1986). Gibson (1974a:85) suggests that the mounds served as communal burial locales for a dispersed population residing at small, seasonal base camps or semi-permanent villages.

Marksville Period, A.D. 1-400

In many parts of eastern North America this period is marked by evidence of extensive interregional contact through a phenomenon labelled the Hopewell Interaction Sphere (Caldwell and Hall 1964). The focal points of this interaction sphere were societies in the Ohio and Illinois River valleys which acquired large quantities of exotic raw materials, including obsidian, copper, mica, shark's teeth, and marine shells, in exchange for specialized finished goods such as copper panpipes and ear spools (Stoltman 1978:721). Various theories have been offered to explain the nature of this interaction, some emphasizing socioreligious systems and others pointing to economic networks, but the problem remains unresolved. Within the Lower Mississippi Valley, the culture which participated in this interaction sphere is termed Marksville. Toth (1988:211-213) has argued that Marksville culture developed out of Tchefuncte as a result of intermittent contacts with cultures in the Illinois River valley area, but he only speculates on the nature of these contacts. He emphasizes that the evidence for Hopewellian interaction is largely limited to the Marksville mortuary system and aspects of ceramic decoration. Other cultural subsystems, such as subsistence and settlement pattern, may have changed very little. Economic data from Marksville sites are extremely limited, but information from contemporary occupations in the Midwest suggests a pattern of intensive collecting of wild plant foods and high density faunal resources, such as fish, supplemented by cultivation of native North American seed plants and a few tropical cultigens (Asch et al. 1979). Present evidence indicates that maize was either not present at this time or of only minor importance.

It is for the Marksville period that the first large-scale evidence of sites in the study area can be found (Altschul 1978; Gibson 1978b; McIntire 1958; Phillips 1970; Weinstein et al. 1978). Principal among these are the Gibson Mounds (16 TR 5) and Mandalay Plantation (16 TR 1). As noted earlier, Mandalay Plantation was established by Phillips (1970) as the type site of the Mandalay phase. With the creation by Toth (1977, 1978) of the Jefferson Island phase as representative of the general area's early Marksville phase, Weinstein et al. (1978) reduced Mandalay to the late Marksville period. The original collection from Mandalay Plantation was reanalyzed for the present study, and more will be said of this later. At present, only a portion of the assemblage from the Gibson Mounds (Weinstein et al. 1978) can be unequivocally assigned to the early Marksville period. Similarly, although there are many mounds in the area, it is not presently possible to assign them to any but the very latest Coles Creek and Mississippi periods.

There does appear to be a good percentage of late Marksville sites in the study area. Many of these initially were identified by McIntire (1958:Pl. 5) as Troyville in age but have been reassigned to the late Marksville period on the basis of revised ceramic analysis (Weinstein and Gagliano 1985:141-142, Fig. 7). Most of these are associated with the du Large, Marmande, and Mauvais distributary channels, although four sites (16 TR 4, 47, 76, and 77) are located on the possible relict beach ridge near Lake Penchant (Weinstein and Gagliano 1985:Fig. 7). Some of the best evidence for a late Marksville component in the study area comes from Gibson's (1978b:Table 16) test pit into the Oak Chenier site (16 SMY 49) near the junction of bayous Chene and Penchant. The lower levels of the pit (35-75 cm) yielded decorated ceramics only of the late Marksville period: Marksville Incised, *var. Yokena* and Marksville Stamped, *var. Manny*. It is interesting to note, as well, that these levels produced a flexed, human burial, as discussed earlier (Gibson 1978b:129, Fig. 28).

Baytown Period, A.D. 400-700

The period following the Hopewellian florescence has been characterized as a time of cultural decline throughout much of eastern North America (Griffin 1967:187). This is certainly implied in Phillip's (1970:901) statement that ceramic decoration was "at a remarkably low ebb" during this period in the Lower Mississippi Valley. Recently, however, a number of researchers have suggested that the apparent decline may not have been as pervasive as previously believed. In the Midwest, Braun (1977) and Styles (1981) have argued that this period, in contrast to earlier interpretations, was a time of population growth and increased regional social integration. Along the Florida Gulf coast an elaborate culture called Weeden Island developed during this time (Milanich and Fairbanks 1980:89-143). Even in the Lower Mississippi Valley, new data indicate that the Baytown period was marked by the appearance of two painted pottery complexes (Belmont and Williams 1981). The earlier complex, termed the Quafalorma horizon, developed during the Troyville subperiod and exhibited striking similarities to early Weeden Island ceramics. The later complex, called the Woodville horizon, characterized the Deasonville subperiod and was less elaborate. The remainder of the ceramic assemblage of the Baytown period consisted of a large quantity of Baytown Plain and smaller amounts of decorated types such as Mulberry Creek Cordmarked, Salomon Brushed, and Alligator Incised.

Changes were also occurring in the stone tool tradition during this period. Small arrow points began to replace dart points, reflecting a transition from the atlatl to the bow and arrow. Subsistence data from the Lower Mississippi Valley are limited for this period, but in the Midwest, Styles (1981) has identified a pattern of intensive, localized collecting of wild plant and animal resources supplemented by increased cultivation of both North America and tropical cultigens. Mound building continued in the Baytown period, and there are indications that a shift from a mortuary function to a building substructure began toward the end of this time (Rolingson 1982).

Much like the remainder of south Louisiana, the Troyville-like culture present within the study area during Baytown times is poorly understood. To date, most sites yielding examples of painted pottery on a Baytown Plain paste have been assigned to this time frame. As can be seen by Figure 3-4, however, this leaves little room for fine-scale cultural differentiation, and the Whitehall phase, named for the Whitehall site (16 LV 19) on the Amite River (Phillips 1970; Weinstein 1974), is currently the sole phase representative for all of southeast and south-central Louisiana.

Despite these problems, strong Baytown period components have been identified in the study area. Foremost of these is at the Gibson Mounds (16 TR 5) where Weinstein et al. (1978:Tables 29-30, Fig. 63) reported a ceramic assemblage composed of Coles Creek Incised, *var. Stoner*, Larto Red, *vars. Larto* and *Silver Creek*, Mazique Incised, *var. Bruly*, Woodville Zoned Red, *var. Woodville*, French Fork lugs, and Evansville Punctated, *var. Amite* (Phillips' [1970] "six-mile treatment"). Several of the numerous varieties of French Fork Incised may also be part of this group.

In addition to the Gibson site, one other locale in the study area deserves special mention. This is Richeu Field (16 TR 82), a low, pyramidal mound on the Teche-Mississippi natural levee about 1.5 mi (2.4 km) southwest of Gibson. There, Weinstein et al. (1978:Tables 38-39) recovered sherds of Larto Red, *var. Larto*, Evansville Punctated, *var. Amite*, and several rims of Baytown Plain, *var. Troyville*. It may be that Richeu Field served as a small hamlet associated with the more prominent village at Gibson.

Coles Creek Period, A.D. 700-1200

Elsewhere in eastern North America this time interval corresponds to the latter portion of the Late Woodland period and the beginning of the Mississippi period. Within the Lower Mississippi Valley, a cultural florescence which shows a marked resemblance to Weeden Island culture of northwest Florida occurs during this period. The precise nature of the relationship of Coles Creek culture to Weeden Island is uncertain, but the similarities in ceramic decoration and community pattern are unmistakable. Both were characterized by the use of incised, stamped, and punctuated pottery types in which the decorative zone is largely restricted to a band around the rim of the vessel, and by the construction of small platform mounds around plazas. The latter are generally interpreted as an indication of the development of stratified social systems during this period. These societies were apparently based on economies which included the cultivation of maize. While direct evidence for this is lacking from sites in the Lower Mississippi Valley, the remains of corn have been recovered from Weeden Island sites (Milanich and Fairbanks 1980:127) and from contemporary Late Woodland sites in the Midwest (Styles 1981).

Coles Creek period sites are relatively common within the study area, 24 of which having been plotted by Weinstein and Gagliano (1985:Fig. 9), and can be related to one or more of three temporally sequential phases for the region: Bayou Cutler, Bayou Ramos, and St. Gabriel. While the Bayou Cutler phase (established by Phillips [1970], based on data from Kniffin [1936] and McIntire [1958]) and the St. Gabriel phase (set up by Brown [1985b] on data supplied by Woodiel [1980]) are situated primarily east of the study area, the Bayou Ramos phase is centered squarely within it. As noted, this phase was created by Weinstein et al. (1978) using data from two test pits at the Bayou Ramos I site (16 SMY 133) located at the junction of Bayou Ramos and Bayou Boeuf.

As with most other phase designations, it is the various ceramic types and varieties which serve to separate the Bayou Ramos phase from its earlier and later Coles Creek counterparts. Bayou Cutler components can be recognized by many of the classic Coles Creek ceramic types and varieties: Coles Creek Incised, *vars. Coles Creek* and *Athanasio*; Mazique Incised, *var. Mazique*; Pontchartrain Creek Stamped, *var. Pontchartrain*; and French Fork Incised. Bayou Ramos components can be identified by sherds of Coles Creek Incised, *var. Mott*; Mazique Incised, *var. Kings Point*; Beldeau Incised, *var. Beldeau*; Avoyelles Punctated, *var. Avoyelles*; and Pontchartrain Check Stamped, *var. Tiger Island*. The St. Gabriel phase can be recognized by sherds of Coles Creek Incised, *var. Hardy*; Mazique Incised, *var. Manchac*; Evansville Punctated, *var. Wilkinson*; Harrison Bayou Incised, *var. Harrison Bayou*, and minor quantities of Plaquemine Brushed, *var. Plaquemine* (Brown 1985b; Weinstein 1987b).

The latter phase is represented in the general study area by two excavated sites, Thibodaux (16 AS 35) and Goat Island (16 SMY 1). At Thibodaux, Weinstein et al. (1978:34-55) excavated a stratified shell midden along Bayou Boeuf in which one of the lower strata produced *Rangia* shell that was dated to 975 ± 60 B.P.:A.D. 975. It contained sherds of Plaquemine Brushed, *var. Plaquemine*; Mazique Incised, *var. Manchac*; and Addis Plain, *var. Addis*. At Goat Island, Goodwin et al. (1985a:108-110) received excellent St. Gabriel phase radiocarbon dates (840 ± 45 B.P.:A.D. 1110, 860 ± 130 B.P.:A.D. 1090, and 810 ± 80 B.P.:A.D. 1140) from a shell midden which produced only plain unidentified pottery.

Mississippi Period, A.D. 1200-1700

The last prehistoric period in eastern North America witnessed the development of chiefdom-level societies based on intensive cultivation of maize, beans, and squash. Perhaps

the most dynamic of these societies appeared in the Middle Mississippi Valley between A.D. 900 and A.D. 1050. Referred to as Mississippian culture, it was characterized by a shell-tempered ceramic industry and a settlement pattern including large mound centers and nucleated habitation sites which were often fortified (Stoltman 1978:725). During the first centuries of the second millennium A.D., this culture spread rapidly along the major river valleys of this portion of the continent. The nature of this expansion, either by movement of people or diffusion of ideas, is still debated, but by A.D. 1200 Mississippian culture was found as far south as northern Mississippi and as far east as Georgia.

In the Lower Mississippi Valley, Mississippian culture encountered an indigenous non-Mississippian culture, and a hybridization of the two occurred. Phillips (1970) considered the resident culture to have been Plaquemine, an outgrowth of Coles Creek culture which began about A.D. 1000. He viewed the interaction between Mississippian and Plaquemine culture as resulting in gradual changes in the Plaquemine ceramic tradition and settlement pattern. Later in the period, after A.D. 1400, an actual intrusion of Mississippian groups displaced the resident Plaquemine groups. Recently, Brain (1978) has offered a somewhat different interpretation of this sequence of events. He argues that the Lower Mississippi Valley culture which experienced the initial Mississippian contact about A.D. 1200 was Coles Creek, and that the resulting hybridization produced Plaquemine culture. The remainder of the period saw a gradual increase in Mississippian influence, at least in the Yazoo Basin, until about A.D. 1400 when a full Mississippian cultural pattern was achieved in the Lake George phase (Brain 1978:362; Williams and Brain 1983). Brain's reinterpretation of the cultural sequence has resulted in a shift in the established chronologies. Phases such as Crippen Point and Preston, which were formerly considered Plaquemine culture manifestations of the early Mississippi period, are now placed late in the Coles Creek period and assigned to a transitional Coles Creek culture. The latter now persists until A.D. 1200 and includes a number of changes in ceramic technology which had previously been considered indicators of Plaquemine culture. If Brain is correct, then Plaquemine culture throughout the Lower Mississippi Valley should postdate A.D. 1200 and presumably appear at progressively later times at increasing distance from the Yazoo Basin.

While disagreeing somewhat on the origin of Plaquemine culture, all authorities concur that it exhibited numerous continuities with the preceding Coles Creek culture. Several of the Plaquemine ceramic types appear to be direct outgrowths of Coles Creek types. There are some changes, however, including the addition of small amounts of finely ground shell and other organic matter to the pottery and the extension of the decorative field to include the body of the vessel. Mound construction continued on an even greater scale than in the previous period. The mounds became larger, there were more at each site, and there were more sites. Intensive agriculture is presumed to be the economic base on which this florescence was built, but there is presently little direct evidence of it in the Lower Mississippi Valley.

The coastal zone of Louisiana was affected by cultural change and variation during the Mississippi period as was much of the rest of the Lower Mississippi Valley. Beginning about A.D. 1200 throughout much of the region, the transitional Coles Creek period became what archeologists today call Plaquemine culture. This is particularly true in the study area where large mound sites, presumably of the Plaquemine culture, occur. Gibson (16 TR 5) contains a well-pronounced Plaquemine ceramic assemblage (Weinstein et al. 1978), and it is highly likely that the impressive Berwick Mounds, described by Cathcart (Prichard et al. 1945), represented a major Plaquemine center. Coupled with these are smaller, isolated mounds, possibly representing minor villages in the Plaquemine political system. Sites such as Fairview Plantation Mound (16 SMY 148) (Collins 1927; Weinstein et al. 1978), Marmande Plantation (16 TR 19) (Altschul 1978; McIntire 1958) and 16 TR 96 (Altschul 1978:205-206), are representative of this group within the present study area. Similarly, numerous shell middens with Plaquemine components are known throughout the region (Altschul 1978; Gibson 1978b;

McIntire 1958; Weinstein et al. 1978; Weinstein and Gagliano 1985) and probably served as seasonal collecting locales for the residents of the more permanent mound sites.

Three regional phases of early Plaquemine culture occur to the east, west, and north of the study area (see Figure 3-4). The first of these is the Medora phase, established by Gagliano (1967) on the data supplied by Quimby (1951) from the WPA-era Medora site excavations in West Baton Rouge Parish. Medora is, in fact, the type site of the entire Plaquemine culture.

The second is the Barataria phase, proffered by Holley and DeMarcay (1977) for sites within the Barataria Basin, principally along bayous des Familles and Barataria, based on excavations by the Delta Chapter of the Louisiana Archaeological Society at the Fleming site (16 JE 36). The third phase is Burk Hill, identified by Brown (1982) on the basis of material from the Burk Hill site (16 IB 100) on Cote Blanche Island.

All three phases are identified principally on the basis of ceramic types and varieties, although difference in percentages and, in some cases, presence or absence of specific varieties, help sort components of one phase from those of another. Principal markers include Plaquemine Brushed, *var. Plaquemine*, Anna Incised, *vars. Anna, Australia*, and *Evangeline*; L'Eau Noir Incised, *vars. L'Eau Noir* and *Bayou Bourbe*; Carter Engraved, Maddox Engraved, and several varieties of Addis Plain.

It also should be noted, as present evidence suggests, that it is within this time frame that material of the so-called "Southern Cult" can be found (Weinstein 1987d). Strongest representation of cult designs occur on pottery to the east in the Barataria phase (Holley and DeMarcay 1977:16; Weinstein 1987b). This is perfectly logical, however, since peoples of the Bayou Petre phase, who were clearly members of the Pensacola variant of Mississippian culture (Knight 1984; Weinstein 1987b), had moved into the extreme southeastern portion of Louisiana, particularly St. Bernard and Plaquemines parishes. Other Southern Cult items include fragments of carved stone discs from the Rosedale (16 IV 1) and Shellhill Plantation (16 SJ 2) sites (Weinstein 1987d).

By A.D. 1500, new influences began to be felt in the Louisiana coastal zone, as aboriginal groups began to take on the appearance, at least in material culture, of the peoples encountered by the early French explorers. This late Plaquemine culture is recognized by one rather overextended phase, called Delta Natchezan. Created by Phillips (1970), this phase includes all south Louisiana sites with ceramics similar to those recorded for the protohistoric and historic Natchez. The type site for this phase is Bayou Goula (16 IV 11), the assumed location of the historic Bayagoula, excavated during WPA days and reported on by Quimby (1957).

Principal ceramic markers of the Delta Natchezan phase include Fatherland Incised, *vars. Fatherland* and *Bayou Goula*, and those versions of Addis Plain which contain small amounts of shell, labeled *vars. Greenville* and/or *St. Catherine* (Quimby 1957:121-128; Brain 1969; Brown 1985a; Phillips 1970; Steponaitis 1974). Mazique Incised, *var. Manchac* and Plaquemine Brushed may be considered minor elements in the assemblage, as well. A small spattering of shell-tempered Mississippian sherds also was noted at Bayou Goula, principally the types Mississippi Plain and Pocahontas Punctated. The presence of minority amounts of shell-tempered pottery at other Delta Natchezan sites, such as Isle Bonne (16 JE 60) and Fleming in the Barataria region (Holley and DeMarcay 1977; Gagliano et al. 1979), argue for a great deal of interaction between the resident Plaquemine peoples and the advancing Mississippians to the north and east.

In the study area, the presence of small amounts of shell-tempered pottery have been recorded by many investigators (Altschul 1978; Gibson 1978b; McIntire 1958:Pl. 13; Weinstein et al. 1978), and these may reflect ties not only to the Mississippian peoples of the Bayou Petre phase to the east, but to what apparently was a small enclave of Lower Valley Mississippians (the Petite Anse phase) who resided on and adjacent to Avery Island (Brown et al. 1979). It has been suggested that this group presumably came to Avery Island to exploit the salt deposits found there and to either trade or carry the salt to the north (Brown et al. 1979).

Within the study area, one Delta Natchezan component has been excavated. At the Thibodaux site (16 AS 35) on Bayou Boeuf, the upper two midden levels of Test Pit 1 yielded sherds of Fatherland Incised, *vars. Fatherland* and *Bayou Goula*; Maddox Engraved, *var. Emerald*; Plaquemine Brushed; and Addis Plain, *vars. Addis* and *Greenville* (Weinstein et al. 1978:Table 2). Radiocarbon assays on these midden levels produced dates of 515 ± 60 B.P.:A.D. 1435 and 460 ± 60 B.P.:A.D. 1490, dates whose sigmas overlap the assumed beginning of the Delta Natchezan phase.

The principal aboriginal groups encountered by European explorers in the vicinity of the study area were the Chitimacha and the Washa or Ouacha. The first recorded contact with one of these groups occurred in March of 1699 when Iberville ascended the Mississippi River (McWilliams 1981:58). One and a half leagues beyond its junction with Bayou Lafourche, which his Indian guide called the Ouacha River, he came upon two canoes, one containing four Bayagoula and the other containing five Ouacha men and two women. The latter were returning to their village, two days travel from there. La Harpe, in *The Historical Journal of the Establishment of the French in Louisiana*, states that the village was located on Bayou Lafourche near those of the Chitimacha and Yagnechitou (de La Harpe 1971:11). He also records that Bienville attempted to visit the Ouacha village in September of 1699. In that entry the village's location is given more precisely as 12 leagues down Bayou Lafourche and one quarter of a league inland (de La Harpe 1971:15). Swanton (1911:298) places it in the area of present-day Labadieville. The next reference to the Ouacha occurs in 1718 when Penicaut notes that they moved from their former village and settled on the west bank of the Mississippi 11 leagues above New Orleans (McWilliams 1953:219). They apparently occupied, or at least controlled, the area back from the river, as well, for in 1744 Claude Joseph Villars Dubreuil purchased a large tract of land located on the west side of Lake Salvador (also called Lake Washa) from the Ouacha and an allied group the Chaouacha (Hunter et al. 1988:31). Not long after that the Ouacha seem to have disappeared as a separate tribal group.

There is considerably more documentary information on the Chitimacha, who retain their tribal identity today. Their first contact with Europeans apparently occurred in 1702, for La Harpe notes that in August of that year Bienville learned of a raid on the Chitimacha by a group of Canadians and Indians led by St. Denis (de La Harpe 1971:41). This marked the beginning of a long period of hostilities between the Chitimacha and the French. In 1706 a group of Chitimacha, having failed in an attempt to attack the Bayagoula, killed the priest St. Cosme and three other Frenchmen somewhere on the Mississippi River (de La Harpe 1971:54). Bienville immediately asked the other Indian groups of the region to join in a war on the Chitimacha, and in March of 1707 St. Denis led a party of French Canadians, Bayagoulas, Biloxis, Chaouachas, and Natchitoches against a Chitimacha village. According to Penicaut the village was located on a lake near Bayou Lafourche (McWilliams 1953:71). He further states that 15 Chitimacha were killed and 40 were taken as prisoners.

Raids between the Chitimacha and Indian groups allied with the French continued until 1718 when Bienville made peace with the tribe, apparently at the request of Dubuisson, the manager of the French concession located on the Mississippi River at the old Bayagoula village (McWilliams 1953:216-219). Under the terms of this agreement, the Chitimacha were to abandon their village on or near Bayou Lafourche and settle on the Mississippi one league

below the concession. Penicaut states that they moved to the new location two weeks later, and, in fact, maps of the period show a Chitimacha village in that area (Giardino 1984:253).

Swanton (1911) questions whether this represented the entire tribe or simply one portion of it. In 1739, a French officer with the De Nouaille party reported that the Chitimacha settlement on the Mississippi was relatively small because most of the tribe lived with the Atakapas (Swanton 1911:343). After that there are few references to the Chitimacha until the late-eighteenth century. In the 1770s Thomas Hutchins, at that time a cartographer in the British army, noted that there was a Chitimacha village located on Bayou Lafourche six leagues from its junction with the Mississippi River (Hutchins 1968:40). He also mentioned two other villages that probably represent Chitimacha settlements located on Bayou Teche. One of these, known as Mingo Luoac or Fire Chief, was situated 10 leagues above the mouth of the bayou and the other, called the village of Soulier Rouge or Red Shoes, was located three and a half leagues farther up (Hutchins 1968:46). Goodwin et al. (1985b:207) place the first village on the east side of Irish Bend and the second in the vicinity of modern-day Charenton, the present location of the Chitimacha reservation.

By the early-nineteenth century the Charenton settlement seems to have become the principal village on Bayou Teche. The Cathcart and Landreth expedition of 1819 described it as a row of palmetto-covered cabins, each 50 to 100 yards apart extending for almost 3 mi along the bayou (Newton 1985:108). They also noted two smaller Indian settlements in this area: one a hunting and fishing camp located on Grand Lake near Charenton, and the other, known as Position's settlement, consisting of three huts located on Berwick Island on the shore of Six Mile Lake (Newton 1985:52-53; 126-127; Prichard et al. 1945:781-782, 837). The expedition recorded another Indian village, this one under the chief Jean Champlain, on Bayou Plaquemine in the eastern portion of the Atchafalaya Basin (Newton 1985:16; Prichard et al. 1945:760). Although Cathcart and Landreth do not identify it as a Chitimacha settlement, Gibson (1980:3-7), using land claims data, indicates that the occupants were Chitimacha. He also documents the presence of a second Chitimacha village of this period on nearby Bayou Jacob (Gibson 1980:7-10).

In the 1880s Gatschet conducted ethnographic research among the Chitimacha at Charenton and obtained a list of 15 historic villages (Gatschet 1883). Swanton later added to this list on the basis of his own research in 1907 and 1908 (Swanton 1911). Most of these settlements were located along Bayou Teche or on small streams in the Atchafalaya Basin, but three were situated on or near Bayou Plaquemine.

Recently, Goodwin and Associates, Inc., conducted limited test excavations at an archaeological site (16 SMY 12) believed to represent one of the settlements recorded by Gatschet and Swanton, *Co'ktangi ha'ne het'e'ne* or "Pond-lily worship house" (Goodwin et al. 1985b:209-213). The small collection of aboriginal ceramics recovered in these excavations included a mixture of late Plaquemine and Mississippian types. Also present were six glass beads and a number of sherds of pearlware.

History

Two very recent studies by Gibson (1982) and Goodwin et al. (1985a) have provided excellent and detailed summaries of the history of the Atchafalaya Basin and Morgan City areas, respectively, while Beavers et al. (1984) summarize the Lafourche-Terrebonne Parish region. This section, therefore, will provide only a brief overview of the present study area.

The history of European settlement of south Louisiana begins with La Salle's voyage to the mouth of the Mississippi River in 1682, and Iberville's ascent up the Mississippi River in March 1699. Although the Gulf coast area had previously been claimed for the King of Spain

in the sixteenth century by Spanish explorers, their sole interest in the territory lay in its potential for providing treasure, and no attempts at colonization were made by the early Spaniards. After Iberville's initial establishment of Forts Maurepas, de la Boulaye, and St. Louis de la Mobile, France's strategy for colonization in the early eighteenth century was primarily to bestow private charters upon individuals who were allowed to develop their own lucrative schemes to draw settlers into the area. Plagued by financial troubles, internal strife, and Indian attacks, the speculative ventures of neither Antoine Crozat nor John Law were very successful in populating the colony, and Louisiana remained largely unsettled until the influx of the Acadians late in the eighteenth century.

Following the 1763 Treaty of Paris, ending the French and Indian War, France was forced to forfeit to England all of her possessions east of the Mississippi (except New Orleans). Within a year, however, both New Orleans and the lands west of the Mississippi were publicly transferred to Spain, although a secret treaty, dating back to 1762 had already provided for such an act.

In spite of the domestic furor caused by the land transfer, the change from French to Spanish control was accompanied by a productive change regarding governmental priorities for resource development. The Spanish interest in exploiting the colony's rich agricultural potential was manifest in her land grant policies, which required that the grantees build and maintain levees, bridges, roads and ditches, or else forfeit their holdings.

Beginning in about 1765, large numbers of French-Canadian exiles arrived in Louisiana to escape British rule in Nova Scotia. Being well-adapted to the environmental as well as the political climate afforded in French Louisiana, the Acadians settled the land flanking the many rivers and bayous of south-central and southwestern Louisiana, including bayous Lafourche, Plaquemine, and Teche. Having travelled all the way from Canada, the Acadians found solace in Louisiana among their fellow Frenchmen.

It was during the period of Spanish rule that the first evidence of any inhabitants within the general study area can be found. Such information comes, in part, from a coastal survey conducted by Don José Evía in 1785. Entrusted with the task of accurately mapping and recording the Gulf coast from the mouth of the Mississippi River westward to the Rio de Tampico, Evía left Southeast Pass on May 15, 1785, in two schooners, *Grande* and *Chica Besana* (Hackett 1931:352).

On the twelfth day of his survey, Evía rounded "La Ultima" (Last) Island of the Isles Dernieres and began to encounter extensive oyster beds (Hackett 1931:353-354). The following day, Evía noted:

The thirteenth day dawned cloudy, with a moderate wind from the northeast, and at noon bearings were taken in $28^{\circ} 47'$, from a point outside all the shoals. I set sail with a fresh wind from the north-northeast in 6 or 7 feet of water, in order to approach the coast. At half past six in the evening I anchored in six feet over the oyster beds, the point [of land] six miles away bearing to the north-northwest. On the 14th day I remained at anchor in order to locate all the shoals which extended to the Punta del Fierro [Hackett 1931:354].

Evía's "Punta del Fierro" is almost certainly today's Point au Fer. Later, Evía records particulars about the point and adjacent features:

From the western point of Ultima Island, the oyster banks stretch 16 miles to the southwest, and 10 miles to the south. They can be coasted in two fathoms of water, and if the tide is out, they are visible. To the west-

northwest of Ultima Island, at a distance of twelve leagues, is the Punta del Fierro, which forms the entrance to the Rio Chafalaya or Teche. It is known by a grove which is there, the only one in those parts. The coast of this point is separated from the peninsula by two small channels. The most easterly has six or seven feet of water, leading to the Gran Bayu, which has only four or five feet of water. The Punta del Fierro is surrounded by oyster banks for a distance of 10 miles. Coasting them at this distance, an eight-foot channel will be found in the direction of the north-northeast, leading to the Chafalaya, or Teche, the grove on the said point being at a distance, and visible from the mast-head. Sailing toward the east, there will be seen to the north another higher and more extensive one on the peninsula which they call La Bella Island, toward which the prow will be pointed. As soon as the water increases [in depth] one must steer closer to the wind in order to round the island of El Bastion, which is the western part of the said river. To the north of the Punta del Fierro oyster banks extend for five miles, under three and four feet of water, but after entering, there is five and six fathoms [Hackett 1931:358-359].

After examining the oyster shoals for a possible route into the Atchafalaya, Evia recorded:

... I determined to enter the Chafalaya, or Teche. I had been informed that I should find there good *verchas*, people, and everything necessary to enable me to carry out my commission with more exactitude, and with less risk. For these reasons I set sail at 4 o'clock in the afternoon toward the north-northeast, with a fresh wind from the south-southeast. At half past seven I moored one league inside the mouth of the river. The sixteenth day dawned with a fresh wind from the southwest and many storm clouds. I set sail before it and continued to ascend the said river toward the north-northeast, to the first settlement, which is four leagues distant from the mouth of the river. I moored here at noon.

... On the seventeenth day I took a pirogue and, with three mariners, ascended as far as Los Atacapas, to the house of the commandant, Don Alexandro de Declouet, which was 35 leagues from the said place. I arrived on the 19th, at 1 o'clock. ... On the third day of July, leaving the two schooners well anchored, I set sail at half past four in the morning with two pirogues and two *berchas* well armed and manned. ... At half-past seven I was out of the river, and continued toward the west-southwest, 5° west, with a cool wind from the east, coasting La Bella Island in eight feet of water [Hackett 1931:355].

Evia eventually continued his survey west along the coast. Upon returning, however, he again entered the Atchafalaya, reclaimed his schooners, and then headed to New Orleans by way of the Atchafalaya, and apparently Bayou Plaquemine. His description of the various waterways and travels is included in the following:

Through this river (the Chafalaya), the Mississippi empties when it is swollen, by way of a bayou which they call La Fouche, opposite Manchac. This causes it to have a strong current, fresh water being encountered four leagues out to sea. To this point ... I made this voyage with two schooners, but it being impossible to carry out the inspection of the rest of the bay of San Bernardo with them, I entered the said Rio Chafalaya in order to get pirogues and more men, which I did, leaving the two schooners there.

On my return I passed through the said bayous with them to the Rio Mississippi, by which I descended to New Orleans. The said Rio Chafalaya (it is called also Teche) is quite large and is settled for forty leagues, as far as the Atacapas and Opelusas, where there is a commandant appointed by the governor of New Orleans [Hackett 1931:359].

Although Evia mentions numerous settlements in the region, most appear to be along Bayou Teche west of the present study area. However, a map compiled by Don Juan De Langara in 1799, using the detailed charts and notes supplied by Evia, shows individual settlements along the west bank of the Atchafalaya (Figure 3-5). Two open circles are shown at locations which today would probably coincide with the town of Berwick and a point slightly to the north, possibly up the Teche. The lowermost circle is labeled "1^a Havitacion" or first habitation and probably represents the residence of Thomas Berwick, Sr., a native of Philadelphia who came to the Opelousas district in the 1760s as a surveyor (Trammell 1986:10-11). Berwick helped lay out the towns of Opelousas and New Iberia before moving to the Lower Atchafalaya River. Berwick Bay was named for him. Thomas Berwick died in 1789, and in 1797 his wife, Eleanor, and youngest son, Joseph, were granted a tract of land on the east side of the Atchafalaya. Eleanor and Joseph Berwick's land grant was located on Tiger Island.

It is somewhat more difficult to identify the northern habitation shown on the De Langara map. Perhaps it can be related to either Peter Henry Renthrop, who, in the early 1800s, owned and operated a ferry at the junction of the Atchafalaya River and Berwick Bay, or to John Muggah, a plantation owner and innkeeper located along the Lower Atchafalaya River near today's Patterson (Prichard et al. 1945:771, 795-796). There is evidence, however, which suggests that both of these men may have been relatively recent (early 1800s) arrivals in the area, and may not have been there in 1785 (Prichard et al. 1945:771, 795).

During the late 1700s, groups of Houma Indians began moving down Bayou Lafourche from their settlements on the Mississippi River near Burnside. Whether the Houma displaced some of the resident Chitimacha groups or simply occupied an area already abandoned by the Chitimacha is not clear. However, given the fact that major Chitimacha settlements are known to have existed along bayous Teche and Plaquemine in the late eighteenth and early nineteenth centuries, it seems likely that the lands of the study area had been abandoned earlier by the Chitimacha in favor of these two locations.

The Houma settled initially along Bayou Terrebonne, principally in and around the present city of Houma. Oral tradition suggests that one main village, called Chufahouma, was established at that time (Bowman and Curry-Roper 1982:22). It is apparent, however, that the Houma actually were scattered across the region around Houma. This is evident by the fact that the tribe filed a land claim with the U.S. government for "a tract of land lying on bayou Boeuf, or Black bayou, containing twelve sections" (Bowman and Curry-Roper 1982:24). Today, the claimed land is situated along that stretch of bayous Black and Boeuf between Houma and Morgan City. The claim was rejected, however, in 1814, on the grounds that an Indian tribe could not claim land that had reportedly been given them as a donation (Bowman and Curry-Roper 1982:24).

Additional evidence suggesting a dispersed settlement pattern comes from those land claims filed by individual Houma which were accepted by the U.S. government. Louis le Sauvage, Jean Billiot and his wife, Marie Nerisse, along with the latter's two sons, Jean, Jr., and Joseph, all were awarded land on lower Bayou Terrebonne which they had been occupying since 1787 or 1788 (Bowman and Curry-Roper 1982:24).

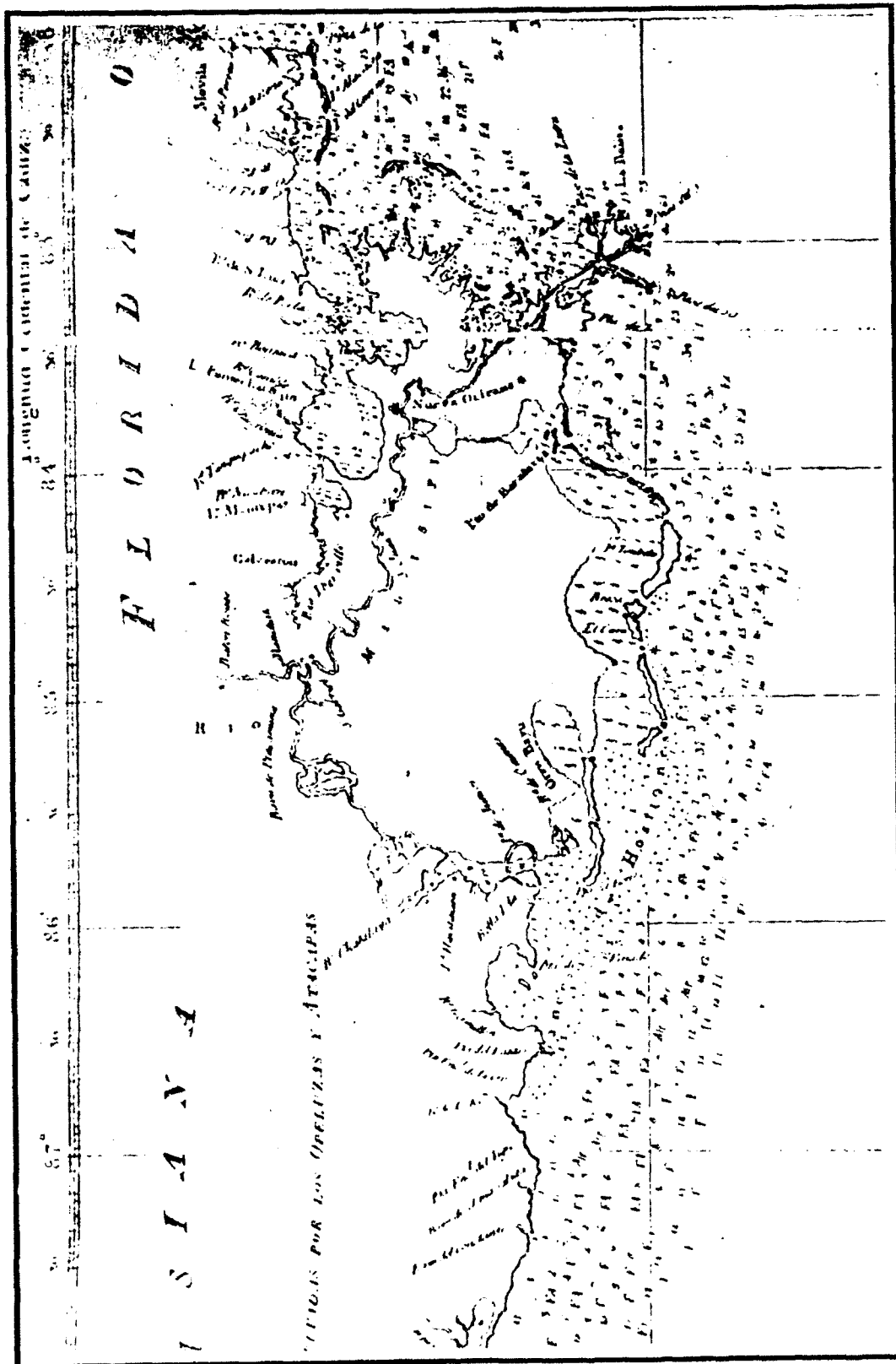


Figure 3-5. Portion of the De Langara map of 1799, based on the data recorded during Evia's survey of 1785. Note the habitations west of the Atchafalaya River. (After De Langara 1799, reproduced in Hackett 1931.)

By the early half of the 1800s, individual Houma families or small groups of families had spread from the area around Bayou Terrebonne, east to Point Aux Chenes and west down Bayou du Large (Bowman and Curry-Roper 1982:26). As pointed out by Bowman and Curry-Roper (1982:27), one of the pilots hired from the Teche area by the Cathcart expedition in 1819 was named Page Bellew (Prichard et al. 1945:771), whose last name they interpret as "Billiot," a common Houma name. Similarly, Cathcart (Prichard et al. 1945:781) noted one Joe Bios (again, probably "Billiot") living at Position's settlement.

By the turn of the twentieth century, several Houma settlements were recorded. In 1907, Swanton (1911:291) noted six locations: Point au Barree, lower Point aux Chenes, Champs Charles (Champs Isle de Jean Charles), lower Bayou Lafourche, Bayou du Large, Bayou Sale, and Bayou Grand Caillou. Of these, only the settlement on du Large is within the present study area. It consisted of 12 to 14 houses of 84 to 98 people (Swanton 1911:291), and was centered around the present community of Theriot (Bowman and Curry-Roper 1982:29-G). By 1941, the du Large settlement had increased to 21 families, and additional Houma were living along Bayou Boeuf near Morgan City (Bowman and Curry-Roper 1982:28). Apparently, there was also an early-twentieth-century settlement on Bayou Mauvais Bois and several "cluster camps" in extreme western Terrebonne Parish (Bowman and Curry-Roper 1982:28, 29-G).

Throughout the late 1700s both the population and economy of the region continued to grow, principally in relation to the clearing of the land for agricultural purposes. In 1803, this region was transferred from Spain back to France as the political situation changed through the ascent of Napoleon. However, both France's economic and political situation forced her to abandon much of her New World holdings in an effort to continue her clashes with England. Thus, later in 1803, France sold her immense Louisiana colony to the United States for \$15,000,000.

Louisiana was admitted to the Union in 1812, withstood the planned British invasion in December 1814 and January 1815 during the closing moments of the War of 1812, and began to prosper as a rich agricultural state. Much of the high natural levees became the location for prosperous sugar plantations. In order to better serve the expanding population, both prior to, and after, becoming a state, the region was divided into districts which, in turn, became parishes. The eastern portion of the study area was originally established as a part of the Lafourche District and the western part as a portion of the Attakapas District. In 1807, Assumption and Lafourche parishes were created out of the Lafourche District. In 1811, St. Mary Parish was formed from St. Martin Parish, a former segment of the Attakapas District. Later, in 1822, Terrebonne Parish was created out of Lafourche Parish (Beavers et al. 1984; Goodwin et al. 1985a).

It is during the early American period that some of the more interesting, and potentially useful, information can be found concerning the history of the study area. Two maps, one by William Darby in 1816 (Figure 3-6) and the other by Captain Poussin in 1817 (Figure 3-7), show sparse settlement in the region. Both maps record the location of "Renthrop's Ferry" at the junction of the Lower Atchafalaya River and Berwick Bay, and "Rice's" along the Atchafalaya at the junction of Bayou Boeuf (see Figure 3-2 for a more accurate location of Rice's Plantation in 1842). Poussin's map also records "Settlements" on "B. Darbone" (Bayou Terrebonne) near the junction of "B. Buffalo" (Bayou du Large). This can only refer to the initial occupation of the Houma vicinity.

In 1819, the Cathcart expedition passed through the study area, as discussed earlier in regard to Indian site locations. The journals of the expedition provide additional information on settlements in the region at that time. As noted, several houses, including what may have been the forerunner of Hard Times Plantation, were recorded along La Coup, that section

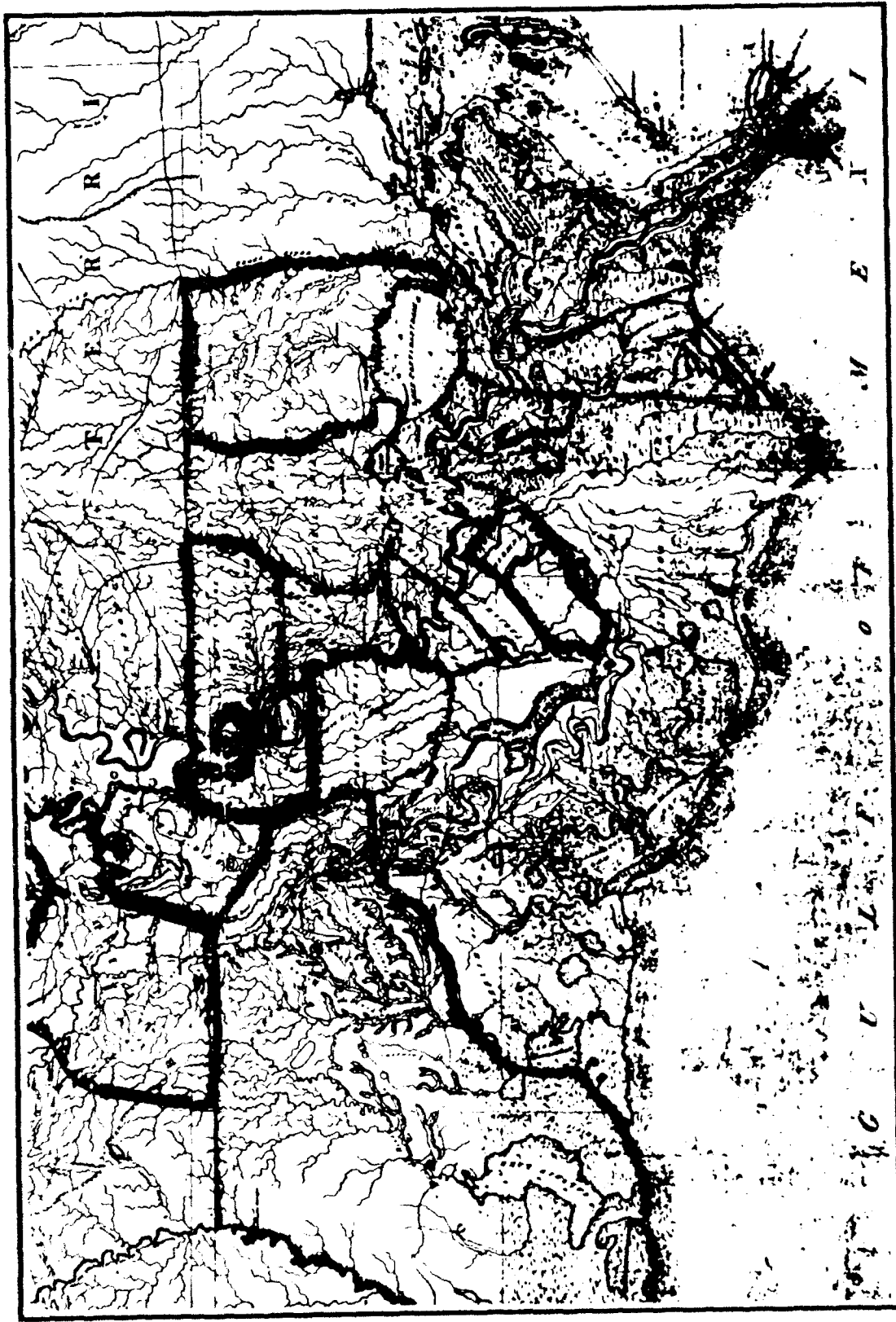


Figure 3-6. Portion of Darby's map showing "Renthrop's Ferry" and "Rice's" Plantation. (After Darby 1816.)

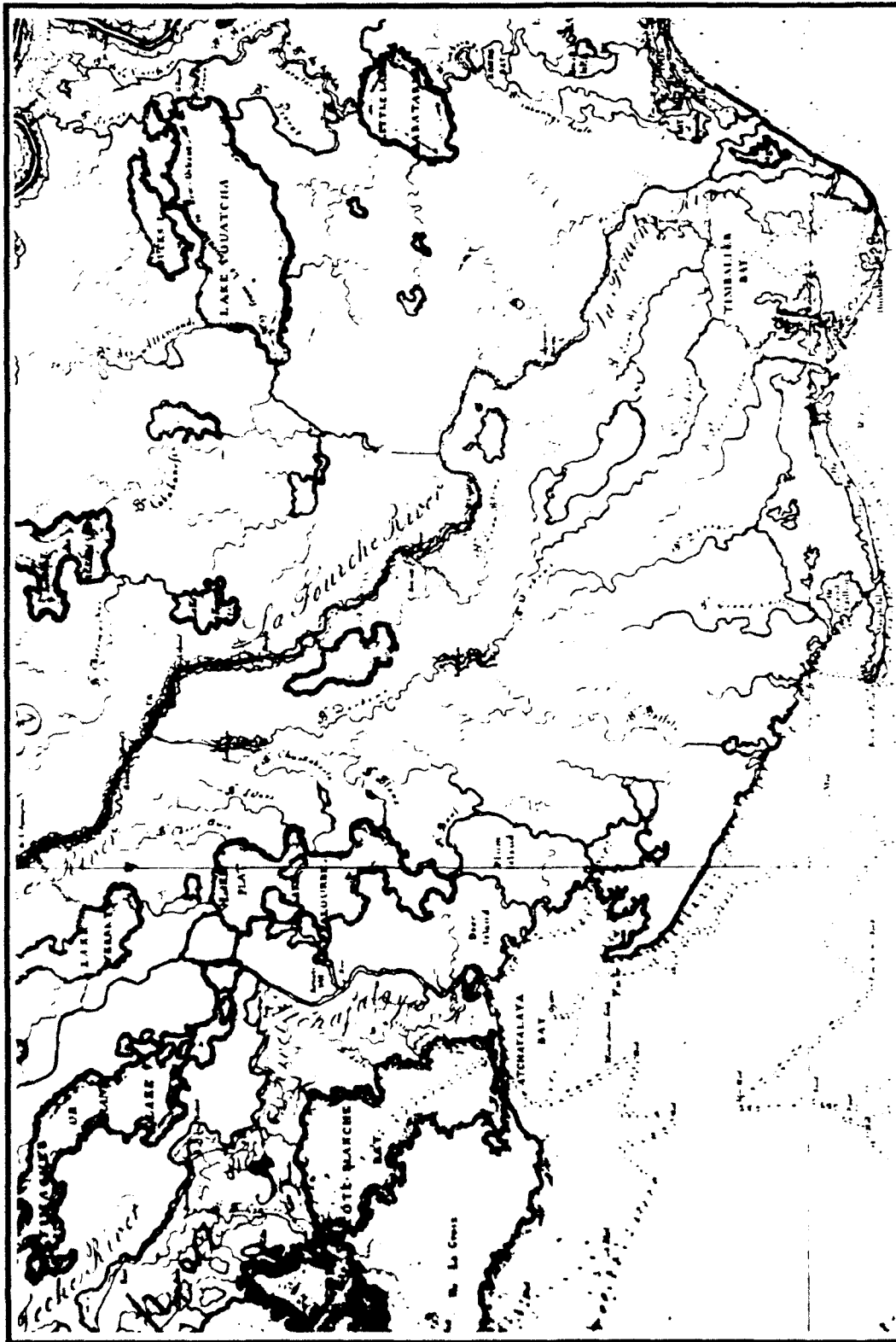


Figure 3-7. Detail of Poussin's map of 1817, showing "Settlements" around present location of Houma, and "Renthrop's Ferry" and "Rice's" along the Lower Atchafalaya River. (After Poussin 1817.)

of Bayou Boeuf running roughly north-south between Bayou Chene and Lake Palourde. After turning west on Bayou Boeuf proper, Cathcart noted settlement on "Cowpen Island," today's Avoca Island:

Cowpen Island . . . lies South, at the entrance from La Coup to B'ou Boeuf where there is a branch . . . which runs SSE into Bayou Derbon . . . & from that to the sea, the SW branch on which we are runs into Berwick bay- Courses SW 1/4, SW 1/2, W 1/4 of a mile, to a plantation own'd by Alex'r Grassier . . . a Frenchman, & his Father in law John Henry . . . a Dutchman . . . [Prichard et al. 1945:791].

Landreth recorded the same segment of the journey as follows:

. . . we next steer South by West about half a mile in twelve feet Water which brings us to Bayou Buff. the coup or cut through which we have passed is generally eighty yards wide and is a very handsome creek or Bayou . . . now in Bayou Buff we steer South West about half a mile in twenty seven feet water the Land very low on each side some marsh on the right hand side and branch willow no appearance of Live Oak on either side near the end of this reach on the left hand side there is a small Settlement of white people John Henry a Dutchman and Alexander Grosure a Frenchman Lives here the Bayou now bears North west by North and runs about a mile and three quarters in this direction in Eighteen feet Water . . . [Newton 1985:64].

According to Prichard et al. (1945:791, footnotes 235 and 236) the name Grassier does not appear in the *American State Papers*, but John Henry seems to have filed several land claims for property along Bayou Teche which he reportedly received under a Spanish order dated to 1786. Regardless, the location given by both Cathcart and Landreth would place the Grassier-Henry property along the south bank of Bayou Boeuf in Section 47, Township 16S, Range 13E.

After leaving Grassier and Henry, the Cathcart party followed Bayou Boeuf west to Bayou Shaffer. Cathcart noted that the western portion, at least, of "Cowpen" (Avoca) Island was claimed by Rice who lived across Bayou Shaffer on today's Bateman Island (Prichard et al. 1945:792). No mention is made of any other inhabitants on Avoca Island, although a good bit of detail is provided on Bryant's Plantation at present-day Morgan City, on Berwick's Plantation at today's Berwick, and on Renthrop's Ferry (Prichard et al. 1945:792-796). Although technically outside the study area, it is instructive to review Cathcart's description of Renthrop's place, since it was probably quite typical of the small homesteads in the region. Additionally, it provides data on a small, family-run ferry, probably much like others throughout south Louisiana:

Sunday [January] 24th [1819] Remain'd here to refresh; Mr Renthrop & his Son are Taylors natives of Westphalia, came to Philadelphia some years ago, & have traveld through many places in the United States since, & about . . . nine years ago settled upon this spot, they keep a tolerable good table for this part of the world, their beds are clean, provisions wholesome, liquors Whiskey, taffia & bad claret, they are obliging but wholly illiterate. Their farm is not very extensive, but their garden is productive, they raise poultry & hogs in abundance, & some fine cattle, & this is the first place we have had milk with our coffee since we left New Orleans; fresh butter . . . is entirely out of the question, & salt . . . cannot be procured except in the City; hogs lard is made its substitute in all culinary purposes, the land everywhere is rich alluvion, capable of producing every necessary of life, & many of the

luxuries; but owing to the prevalence of slavery, the whites are lazy, & in general dissipated, & confine themselves to the culture of cotton & sugar . . . alone, because more productive with less labour; The flats (so call'd) used at this Ferry, are form'd of two large canoes, on which is a platform for horses . . . the price of carriage for a man & horse is 12 dollars, & for black cattle 1.50 cs per head . . . they cross the Lake to the canal which runs into Lake Verrett from Lafourche . . . a distance of 30 miles, & from thence passengers proceed to Donaldsonville, & take passage in Steam boats, that pass either up or down the Mississippi, at the rate of 12 1/2 cts per mile . . . The flats or double canoes, row with two or more oars, & sail when the wind is fair, the rudder is on one canoe only, the pilot sits on the platform, & steers with a yoke & lines, as he would a gig or wherry [Prichard et al. 1945:795-796].

Landreth also added interesting information on Renthrop and his ferry:

Sunday morning January 24th 1819 at Rentropes. Rentrope is a German and has been several years in this country he keeps a tolerable good House for a new country where regular markets is not established and where supplies cannot at all times be had. here we had milk for our coffee the first we had seen for some time. here they have a great many domestic Fowls Turkeys and chickens &c here I saw what I have not seen in this country before three fine Hogs in a Sty very fat each of which would weigh two hundred and fifty pound but here [illegible] people pretends to make Bacon they generally eat their Hog meat in what they call corn pork. Beef here being their principal dependance which they have very fine in general; Rentrope has a very excellent Kitchen Garden and even the cultivation of a few flowers is not neglected. here the[y] have cabbage full grown and in a growing State still. here they have kale and Spinnage in perfection and the finest Parsley Bed I ever Saw. the Land here is very fine the grass quite green. white clover abounds here and is at this moment fine sheep pasture; Rentrope keeps a Ferry here on the Teche. the Ferry Boats are two connoes fixed about three or four feet apart connected by a platform raised upon them upon which . . . Platform they carry Horses or cattle as I am told they either Sail or row very well and Some of them carry ten or twelve Horses at a time and they are considered safe Boats. these Boats runs from Rentropes on the Teche across the Lakes to the Laforch canal about thirty miles the price of Ferriage for a single man four Dollars for a man and Horse twelve dollars Rentrope has a son lives at the Laforch Canal who keeps a Tavern and Boats so that there is seldom any detention upon either side the time of passing depends upon the wind and the current &c and takes from Seven or Eight hours to twelve or fifteen. here at Rentropes we rest on Sunday- here is all kinds of business going on Carpenters at work carts driving about the same as any other Day no respect paid to the Sabath here Rentrope keeps a very good table but his charges like all the rest in this country are very high. you cannot live in any tolerable Tavern in this country for less than two Dollars per Day and seldom for that [Newton 1985:70-71].

After leaving Renthrop's, the party headed down the Atchafalaya, passing Rice's Plantation on the way. Landreth provides a brief description of the location:

. . . in the Atchafalaya we steer down through what is called Berwicks Bay South South East half East and soon get in Eight and nine feet water and from that to five fathoms we steer this course two miles which Brings us to Rices

corner at the mouth of Bayou Buff from whence we take a new departure. here Mr Rice owns a very fine and handsome Island which I am told he has a good Title too on which he has built himself a snug little dwelling House on Bayou Buff and open to Berwicks Bay . . . ornamented with two rows of Orange Trees running nearly down to Berwicks Bay and paralel with Bayou Buff Mr Rice has shewn more taste than common here in the arrangment of his Houses and Trees . . . [Newton 1985:70].

It is interesting to note that several of the people mentioned by Cathcart and Landreth filed land claims with the U.S. government following acquisition of the territory in 1803. These are recorded in the *American State Papers* volumes for public lands. By comparing these claims with the original township plat maps of the area, it is possible to identify quite precisely the boundaries of those claims which were upheld. Through a review of the *American State Papers* it also is possible to identify individuals who filed claims which subsequently were rejected. Although in these latter cases, the lack of corresponding locations on plat maps makes it difficult at times to identify the specific piece of property being claimed, information regarding adjacent property owners and nearby topographic features recorded in the claims can sometimes be used to pinpoint the true location. This, then, gives a more accurate picture of the total population of an area. It includes not only those residents for whom claims were validated, but also those people who may have been squatters or who did not have legitimate claims, yet were living on the land.

In the western portion of the study area, the two main stretches of land for which claims were filed include the north shore of Avoca Island, then known as "Cowpen" or "Couden" Island, and the banks of Bayou Boeuf along La Coup. As noted earlier, Cathcart reported that Rice, whose plantation was situated at the junction of Bayou Boeuf and the Atchafalaya River, had claimed part of Avoca Island. This is confirmed by claims for Sections 30 and 40, Township 16S, Range 12E, and Sections 39, 40, and 41, Township 16S, Range 13E, filed by Samuel Rice, Sr., and Samuel Russel Rice in January 1812:

No. 346. SAMUEL RUSSEL RICE claims a tract of land, situate in the county of La Fourche, on the bayou Boeuf, containing six hundred and fifty-three and thirty-six hundredths superficial acres, and adjoining on one side land of Samuel Rice.

It appearing that the land now claimed was settled, with the permission of the proper Spanish officer, prior to the 20th day of December, 1803, and that the same was inhabited and cultivated on that day by those under whom the present claimant holds, the Board confirm the claim to the quantity of six hundred and forty acres, and reject the balance.

No. 347. SAMUEL RUSSEL RICE claims a tract of land, situate on the bayou Boeuf, in the county of La Fourche, containing six hundred and fifty-five and eighty hundredths supreficial acres.

It appearing that the land now claimed was settled, by the permission of the proper Spanish officer, prior to the 20th December, 1803, and that the same was actually inhabited and cultivated on that day by those under whom the present claimant holds, the Board confirm the claim to the quantity of six hundred and forty acres, and reject the balance.

No 348. SAMUEL RICE, Sen. claims a tract of land situate in the county of La Fourche, on the bayou Boeuf, at the place usually called Coupén Island, containing six hundred and ninety-four hundredths superficial acres.

It appearing that this land was actually settled, by the permission of the proper Spanish officer, prior to the 20th of December, 1803, and that the same was inhabited and cultivated on that day by those under whom the Claimant holds. Confirmed [Lowrie 1834:363-364].

Eastward, along the north side of Avoca Island, a claim was filed, also in 1812, by John Henry who is almost certainly the same John Henry, the "Dutchman," noted by Cathcart and Landreth several years later:

No. 272. JOHN HENRY claims a tract of land, situate in the county of La Fourche, on the bayou Boeuf, containing six hundred and fifty-six and forty-five hundredths superficial acres.

The claimant states that he went on this land, with the permission of the proper Spanish officer, some time in the month of July, 1803; but we have satisfactory evidence that the land was never settled until after the 20th of December, 1803, and do therefore reject the claim [Lowrie 1834:365].

Several years later one Robert Martin filed claims for land on both Avoca and Tiger islands. One of his claims appears to correspond to that of John Henry, whose claim, as just seen, was rejected. Martin, in particular, claimed Sections 43, 45, and 47 on the north shore of Avoca Island, and Sections 42, 44, and 46 on the south shore of Tiger Island, all within Township 16S, Range 13E:

No. 33. Robert Martin claims a tract of land, situate on the bayou Boeuf, in the county of Lafourche, having a front of forty arpents on said bayou, with a depth of forty arpents, bounded above by land of Pilboro, and below by vacant land.

This land is claimed by purchase under François Flores, in whose favor an order of survey was made by Governor Galvez on the 7th of August, 1777. I am of opinion this claim ought to be confirmed. . .

No. 35. Robert Martin claims a tract of land, situate on the bayou Boeuf, in the county of Lafourche, having a front of forty arpents on both sides of said bayou, with a depth of forty arpents, bounded above by lands of Montaran; and below by lands of Dumain.

This land is claimed by right of purchase under Antoine Pilboro, in whose favor an order of survey was made by Governor Galvez on the 2d day of July 1776. I am of opinion this claim ought to be confirmed.

No. 36. Robert Martin claims a tract of land, situate in the interior of Lafourche, on the bayou Boeuf, having a front of thirty arpents on both sides of said bayou, with the ordinary depth of forty arpents, bounded above and below by public lands.

This land is claimed by right of purchase under Jacques Montaran, in whose favor an order of survey was made by Governor Galvez on the 5th of May,

1775. I am of opinion this claim ought to be confirmed [Lowrie and Franklin 1834:581].

Interestingly, questions apparently were raised shortly thereafter concerning the authenticity of Martin's claims. A letter from Samuel H. Harper, of the New Orleans Register's office, to William H. Crawford, Secretary of the U.S. Treasury, dated March 9, 1821, notes the following:

SIR: In my report on land claims, dated 6th of January last, which I had the honor of transmitting to you, I reported favorably on the following claims, which I have since discovered to be forgeries, viz: Nos. 24, 33, 34, 35, 36, 37, 65, 66, and 67. These claims purport to be founded on orders of survey granted by Governors Miro, Guyoso, Galves, and Carondelet. At the time I received these claims I was much pressed with the business of other claimants; and, besides, they were presented by persons of so respectable characters, to whom they had been transmitted for the purpose, that I did not suspect any fraud was intended; and thus, without minute investigation, I reported in their favor. But since arranging and recording the various land titles presented, I have discovered that the whole of the claims above mentioned are feigned and fraudulent. From a comparison of signatures, and other circumstances connected with the papers, I had no doubt myself of their being forged; but, lest I might be mistaken, I have submitted them to the inspection of several persons, and particularly to former clerks of those governors, who have all concurred in their condemnation. I had always been extremely scrupulous with regard to receiving land titles, and, from the length of time I have been in office, I cannot well be deceived in signatures, several of which I detected on presentation; but, for the reasons above mentioned, I did not bestow the proper attention upon those. I hope, however, that, even if those reports of mine have been adopted by Congress, those spurious claims may be still corrected. So far from wishing them sanctioned, I am determined to prosecute the persons concerned in this nefarious transaction, if, in the opinion of the Attorney General, prosecution can be maintained. Since discovering the frauds practiced on me, I have examined minutely with the translator (who, by-the-by, was not present when these papers were received) every other claim reported on, none of which I have any reason to suspect.

I have the honor to be your obedient servant,

SAM. H. HARPER
[Dickens and Forney 1860:436].

Harper's reluctance to accept Martin's claims may be supported to some extent by the Cathcart and Landreth journals, neither of which mention Robert Martin, a name which surely would have been noted had Martin owned or occupied all of the land in question. Apparently, as seen above, Harper's letter did not reach the Secretary of the Treasury in time to prevent Congress' approval, and the claims were, thus, duly included in Lowrie and Franklin's (1834) volume of the *American State Papers*.

Nevertheless, questions regarding the authenticity of the claims remained throughout the early 1800s. This is particularly evident on the original plat map for Township 16S, Range 13E (Newcomb 1842). The plat includes both American survey sections (solid lines) and earlier Spanish (arpent) sections representing Martin's claims (dashed lines). A note on the map states the following:

The claims of Robert Martin are represented on this map by dotted lines in conformity with commissioners Letter of . . . Mch See Letter of S. H. Harper, Register dated 9th Mch 18 . . . to the Secretary of the Treasury, asserting the claims to be forgeries [Newcomb 1842].

Either Martin or his heirs must have continued to press for confirmation of the claims, however, and eventually gained their approval, for by 1850 the claims were resurveyed and made an official part of the township. The section lines on today's quadrangle maps match those of Martin's original claims.

Along La Coup, two land claims were confirmed, one by Gregoire Aucoin for Section 37, and one for Jean Baptiste Henry for Section 38, both in Township 16S, Range 13E (Newcomb 1842). The claims are on the east bank of Bayou Boeuf and almost certainly reflect at least two of the inhabitants of that stretch of La Coup noted by Cathcart and Landreth. The names of additional residents along La Coup can be gleaned by further examination of the Aucoin and Henry claims submitted in January 1812:

No. 279. Gregoire Aucoin claims a tract of land, situate on the bayou Boeuf, in the country of La Fourche, containing four hundred and forty-six and sixty-two hundredths superficial acres, and adjoining on one side to land of François Aucoin.

It appears that the land was actually settled, by permission of the proper Spanish officer, prior to the 20th of December, 1803, and that the same was inhabited and cultivated on that day. Confirmed.

No. 280. Jean Baptiste Henry claims a tract of land, situate in the county of La Fourche, on the bayou Boeuf, containing one hundred and eighty-six and sixty-eight hundredths superficial acres, and adjoining on one side to land of Jean Baptiste Jaunier.

It appearing that the land now claimed was actually settled, with the permission of the proper Spanish officer, prior to the 20th December, 1803, and that the same was inhabited and cultivated on that day. Confirmed [Lowrie 1834:363-364].

Thus, François Aucoin and Jean Baptiste Jaunier occupied land adjacent to Aucoin and Henry. A search of the *American State Papers* shows that François Aucoin's claim (No. 273) was rejected, and a claim (No. 491) filed for land along Bayou Boeuf by Jean Baptiste Janne, who may be the Jean Baptiste Jaunier noted in the Henry claim, also was rejected (Lowrie 1834:365, 367). Other claimants filing for land along Bayou Boeuf had their claims rejected. These include Benoit Goutreau (Claim No. 282), who claimed land adjacent to Jean Baptiste Henry, Michel Deval (Claim No. 294), Jacob Henry (Claim No. 337), William Knight (Claim No. 462), Alexandre Daniel (Claim No. 488), Jean Lagrange (Claim No. 489), who claimed land adjacent to "Bte. Jaunier" (Jean Baptiste Jaunier?), Jean Olivier (Claim No. 490), Etienne Penicon (Claim No. 493), who claimed land adjacent to Jean Baptiste Henry, and Felix Boudreau (Claim No. 494) (Lowrie 1834:364-367). A joint claim filed by Gregoire Aucoin and Benoit Goutreau (Claim No. 483) was rejected, although, as noted above, Aucoin had a claim approved for another tract of land on Bayou Boeuf (Lowrie 1834:366-367).

The only claim to be approved along Bayou Black in the northern portion of the study area was filed by Robert Martin for a tract located near Houma that includes Section 95 in Township 17S, Range 16E and Sections 103 and 104 in Township 17S, Range 17E:

No. 34. Robert Martin claims a tract of land, situated on the bayou Blake, in the county of Lafourche, having a front of fifty arpents on both sides of said bayou, with a depth of forty arpents.

This land is claimed by purchase under Miguel Saturnino, in whose favor an order of survey was made by Governor Gayoso on the 2d of November, 1798. I am of opinion this claim ought to be confirmed [Lowrie and Franklin 1834:581].

This is the same Robert Martin who submitted the apparently forged claims along Bayou Boeuf. His claim No. 34, for the land along Bayou Black and the upper end of Bayou du Large, was considered fraudulent as well (see Harper's letter of March 9, 1821). As with his other claims, however, Martin or his successors eventually were able to receive confirmation.

Interestingly, the Houma tribal claim mentioned previously was one of the few other claims filed along this portion of Bayou Black. Although it was disallowed by the U.S. Land Commission, the absence of other claims for this land lends some support to the argument that the Houma were residing there at that time.

In the eastern part of the study area, only two land grants, all along the upper reaches of Bayou du Large, were approved. These are extremely interesting, however, as they almost certainly represent a modified form of the Spanish sitio, measuring approximately one league on each side (Mires 1986:7). One of the sitios is located entirely within Townships 18S, Range 17E, comprises Sections 18 and 31, and was claimed in 1817 by Joseph Felice:

No. 648. Joseph Felice claims a tract of land, situate in the county of Lafourche, on bayou Boeuf, having a front of one league on each side of said bayou, and a depth of forty arpents on each side of the bayou. The claimant, on the 29th of December, 1794, obtained from the Baron de Carondelet an order of survey for this land, but there is no evidence of location. Our opinion with respect to this claim is the same with that expressed in the proceeding, at No. 647 [Lowrie and Franklin 1834:267].

The location of the claim on Bayou Boeuf, rather than du Large, must simply be a "best guess," stemming from the fact that the order of survey did not specify the claim's exact location. The 1832 plat map of the township (Fritz 1832) shows Felice's claim (No. 648) properly on Bayou du Large.

The other sitio is noted in claim No. 647 and represents Sections 17 and 32 in Township 18S, Range 17E, and Section 11 in Township 17S, Range 17E. It was filed by Joseph Gabon in 1817:

No. 647. Joseph Gabon claims a tract of land lying and being on bayou Boeuf, county of Lafourche, containing eighty arpents front on each side of said bayou, by forty arpents in depth on each side of the same. The claimant obtained from the Baron de Carondelet, on the 5th of November, 1794, a regular order of survey for the above quantity of land, but we have no evidence of its ever having been located, although we think it probable. If this claim has not been located, and the place designated in the order of survey be still vacant, we are of opinion that the claimant ought, in justice, to have the land claimed [Lowrie and Franklin 1834:267].

Again the description of the claim on Bayou Boeuf is questionable, but, as noted, the poor locational information in the order of survey probably explains the discrepancy. As with Felice's claim, the proper location is shown on the two relevant township plats (Fritz 1832; McCulloh 1855).

By the 1840s almost all of the original land grants had changed ownership. An 1846 map by John La Tourette, showing many of the landowners in the state of Louisiana, includes only S. R. Rice as the owner of the principal Rice property on Bateman Island west of Bayou Shaffer (Figure 3-8). This may confirm Samuel Harper's earlier fears, brought out partly in a letter dated May 24, 1827, to George Graham, Commissioner of the General Land Office, that many of the initial land claimants, including Robert Martin, were simply attempting to acquire land for speculation:

I have been lately informed that some of the persons concerned in those claims (with a view, no doubt, to induce people to buy them) have said that positive orders had been given by "the department" to the surveyor general to survey those lands, and the the surveys had been returned to my office. The first of these statements I do not believe, and the latter I know to be false. Not knowing what extraordinary measures may be taken to procure patents, I think proper to apprise you that I have not, nor will not, issue patent certificates for those lands without your express order, or unless I shall be compelled so to do by judicial authority [Dickens and Fomey 1860:437].

With final confirmation of such claims, the land was quickly sold to new individuals.

Of particular interest to the present study, are those lands along the north edge of Avoca Island, the east bank of La Coup, and Bayou du Large. On Avoca Island, Section 30, Township 16S, Range 12E, is owned by J. N. Wofford, while Sections 39, 40, and 41 in Township 16S, Range 13E are owned by William Rochelle. These were original land grants awarded to Samuel Russel Rice and Samuel Rice, Sr. William Washington Wofford acquired the land from the elder Rice in 1825. By 1843, it had passed into the hands of James Nixon Wofford who retained it until 1868. The Woffords established a small sugar plantation on the property and built a sugar mill along Bayou Shaffer about 0.25 mi south of the bayou's junction with Bayou Boeuf (Kelley 1988:39-44). The earliest sugar records available, dating to 1828 and 1829 (Degelos 1892), do not list either Wofford or Rochelle. There is a gap of 14 years, however, before the next set of sugar records, from 1844, are recorded. These list J. N. Wofford as having produced 142 hogsheads (Hhds) of sugar that year, and William Rochelle as having produced 122 Hhds (Champomier 1845).

On the east bank of La Coup, La Tourette (1846) recorded the landholdings of Pennison, Bourg, Daniel Morrison, and Schwing. Pennison probably refers to B. E. Pennison, apparently the son of Etienne "Penigon" who had placed a land claim in 1812 which was subsequently rejected (see above). Apparently, following the township survey in 1842, unclaimed, nonswamp land became available for purchase, and a parcel was acquired by Pennison. "Schwing" is undoubtedly George Schwing who, in 1832, had built the Hard Times Plantation house (16 AS 34) reported upon earlier.

The 1844 sugar records indicate that B. E. Pennison produced a moderate amount of sugar, at 78 Hhds, while Morrison and Schwing accounted for 214 and 149 Hhds, respectively (Champomier 1845). Schwing's sugar production actually is referred to as that of "Schwing & Co." (Champomier 1845), so it is likely several partners were involved in operation of the plantation. It also is interesting to note that the 1844 sugar records record the production of "Gautreau & Aucoin" on Bayou Boeuf. It seems likely that these are the same

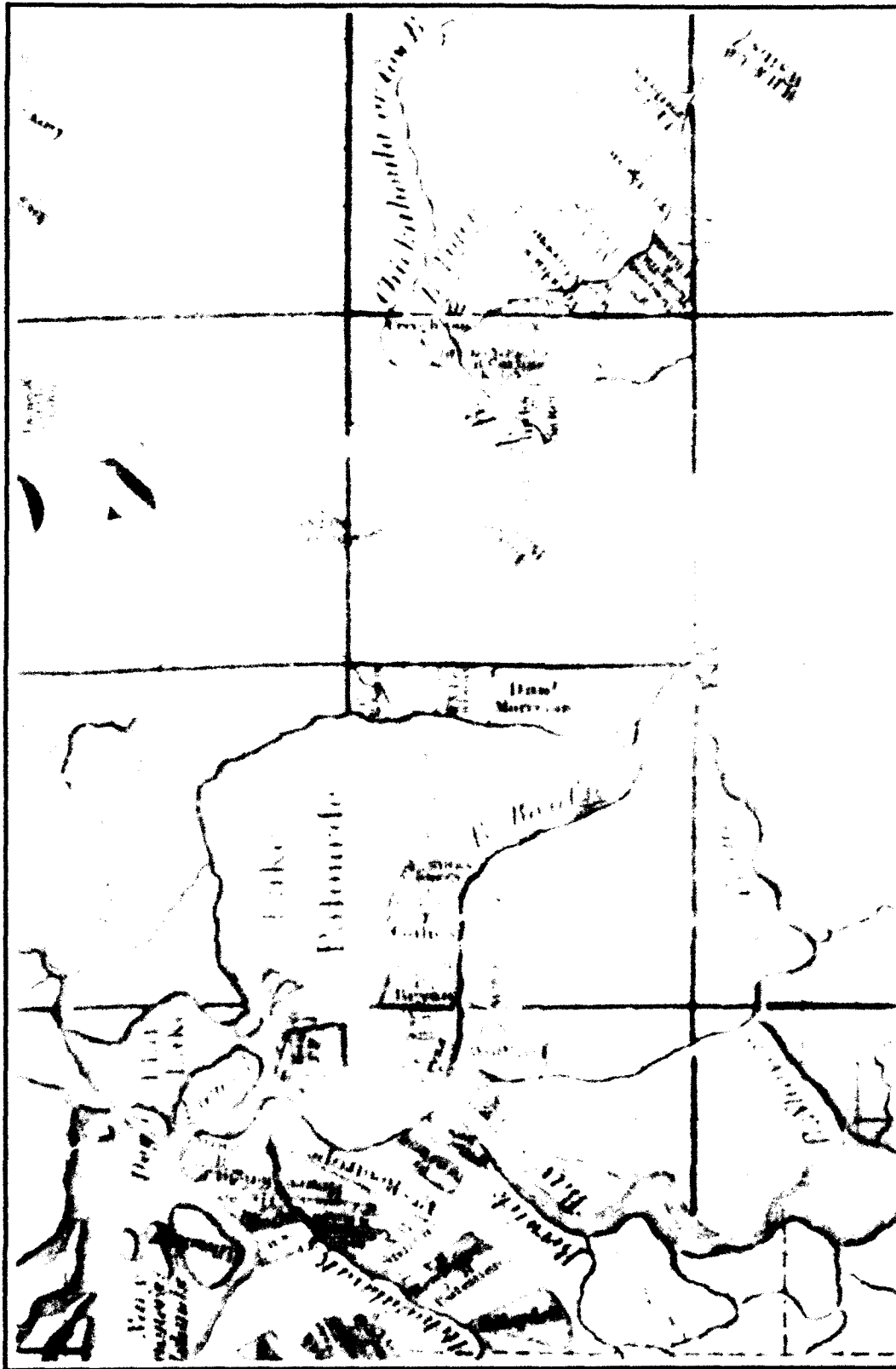


Figure 3-8. Detail of the La Tourette map of 1846, showing principal landowners in the western portion of the study area.
(After La Tourette 1846.)

Gregoire Aucoin and Benoit Goutreau (or their children) whose claim for land along Bayou Boeuf had earlier been rejected. Their names do not appear, however, on the La Tourette map.

At the junction of bayous Chene and Black, along the south bank of Chene, portions of Sections 1 and 6 of Township 17S, Ranges 13 and 14E, respectively, are shown as property of J. Earl. This name does not appear in any of the sugar records for 1844, '45, or '46 (Champomier 1845, 1849), so Earl may have been a hunter, trapper, or fisherman, a possibility substantiated by the relatively low land he has acquired.

La Tourette (1846) records the presence of a number of small landholdings and a few larger tracts along Bayou Black at the northern boundary of the study area. Most of these properties were located on the western portion of the bayou in Ranges 14 and 15 East. The large tracts, which belonged to Windham Robertson, Judge Baker, and Tobias Gibson, all supported productive sugar plantations by the late 1840s, and many of the smaller properties were producing sugar as well (Champomier 1846). Farther east along Bayou Black most of the land apparently remained undeveloped.

Near the junction of bayous du Large and Black, La Tourette (1846) records five landowners within the present project area (Figure 3-9). Three of these, John McCrea, Joseph Fowler, and Dr. Wade, are on property previously included in Robert Martin's questionable claim. The other two belong to R. R. Barrow and "Dr. E. E. Kittridge & G. F. Connolly." These are located in the northern portion of Joseph Gabon's large sitio claim. Robert Ruffin Barrow was an Anglo-American planter who moved to Terrebonne Parish in the late 1820s from West Feliciana Parish where his family owned a number of large plantations (Floyd 1963:24). He quickly began acquiring land in Terrebonne Parish, some of it by rather unscrupulous means. Barrow filed several fraudulent claims for lands inhabited by Houma Indians (Bowman and Curry-Roper 1982:27), and purchased land from Robert Martin who had apparently acquired it illegally. Barrow's conflicts with the Houma reportedly led to his killing of several members of the tribe (ibid). He lived at Residence Plantation east of Houma on Bayou Terrebonne, but by the mid-1840s he owned or was a partner in five other plantations in Terrebonne Parish and one in Lafourche Parish, producing a total of over 1,500 Hhds of sugar per year (Champomier 1846). Barrow was by far the largest sugar producer in Terrebonne Parish, and by 1860 he had become one of the wealthiest planters in the state with property valued at over \$1,062,000 (Floyd 1963:24).

The 1847-48 sugar records record two other planters along Bayou du Large: Michel Theriot and John Pelton, but only the latter is noted for having produced sugar--660 Hhds (Champomier 1849). N. C. Wade also is recorded for the years 1846-47, but did not produce sugar (Champomier 1849).

From the 1840s until the outbreak of the Civil War in 1861, the lands within the study area continued to develop into sugar-producing plantations and small farmsteads. The greatest impact on the region was to come in the form of the New Orleans, Opelousas, and Great Western Railroad, designed to link New Orleans with western Louisiana. By the early 1850s, the railroad had acquired rights of way for much of its proposed route across Tiger Island (Goodwin et al. 1985a:53). Land on the western end of the island had been acquired during the 1830s and 1840s by Dr. Walter Brashear (Goodwin et al. 1985a:43). Brashear donated his lands to his children, Robert B., Thomas T., and Francis E. Brashear in 1842 (Goodwin et al. 1985a:46), and in 1853, they had a plan drawn up to divide their holdings into lots within the "Town of Brashear" (Goodwin et al. 1985a:58, Fig. 7). In March 1860 the inhabitants of the town petitioned the Louisiana legislature for incorporation status. This was granted, and Brashear City became a reality (Goodwin et al. 1985a:60).

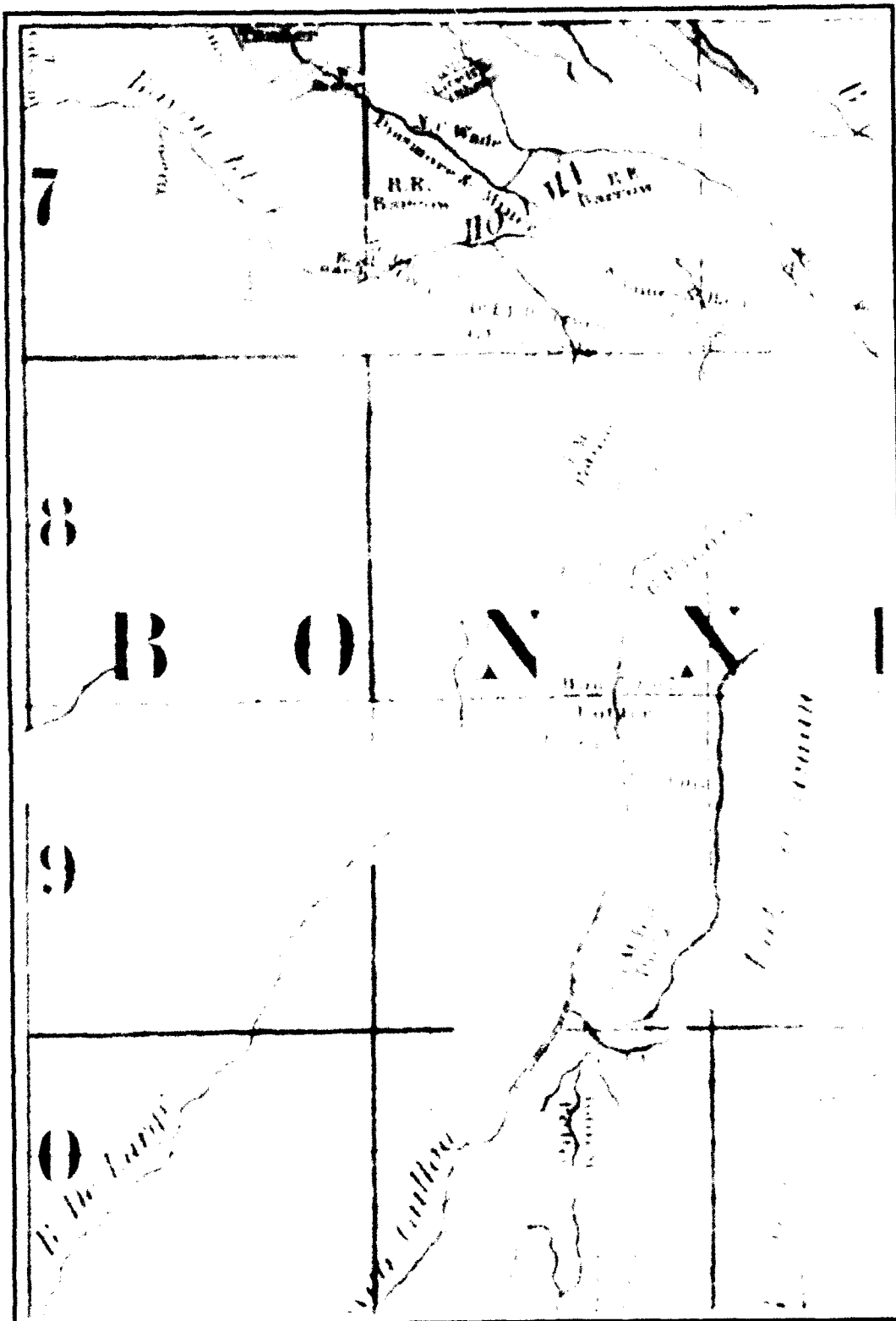


Figure 3-9. Detail of the La Tourette map of 1846, showing principal landowners in the eastern portion of the study area. (After La Tourette 1846.)

In the eastern part of the study area, the town of Houma began to grow as more and more settlers moved into the area. Originally established around what is believed to have been one of the Houma Indians' principal villages, the actual town developed on land claimed by Joseph Hache in Section 7, Township 17S, Range 17E. In 1832, Houma became the parish seat of Terrebonne Parish (Work Projects Administration [WPA] 1941:390). The 1855 plat map of the township shows only 11 city blocks within Hache's claim fronting on Bayou Terrebonne (McCulloh 1855). However, a note on the map states that the entire township originally was surveyed in 1830 and '31, so the tiny town shown may actually date to the 1830s.

In 1861, Louisiana seceded from the Union and joined the Confederate States of America. Early in the war, New Orleans and Baton Rouge were occupied by Union troops and became staging areas for expeditions into more remote portions of the state. In 1863, both Confederate and Union forces vied for the strategic location of Berwick Bay and Brashear City.

Goodwin et al. (1985a:60-64) provide a good review of the Brashear City area during the war. Principally, the location was highlighted by the initial construction of two Confederate forts: Berwick and Chene. Fort Berwick consisted of:

An earthen fort, quadrilateral in shape with parapets five feet high on three sides, the rear being protected by palisades about seven feet high, loopholed for musketry, the whole was surrounded by a moat six feet wide in front and three feet in rear. On the front face two 24-pdr pivot guns were mounted which commanded the outlet of Wax Bayou [Casey 1983:24].

The fort was built in July, 1861, and was designed to prevent access, through Wax Bayou, to the marshes to the west and the southern edge of the Teche ridge. The fort was located in the northeast corner of Section 16, Township 16S, Range 12E, along what is today the north bank of Little Wax Bayou at its junction with the Lower Atchafalaya River (see Figure 3-3). Casey (1983:24-25) reports that the fort was abandoned in April, 1862, after the fall of New Orleans.

Fort Chene was another small earthwork located at the junction of bayous Chene and Shaffer, along the southeast edge of Avoca Island (Gibson 1978b:171; Casey 1983:44; see Figure 3-3). It was built in August, 1861, and contained a small, central barracks area protected by an outer ditch around the earthworks (Casey 1983:44). The entrance to Bayou Chene apparently was closed off by a stockade. Armament consisted, at various times, of two 24-pd pivot guns, one rifled 32 pounder, and four 24 pounders (Casey 1983:44). As with Fort Berwick, Fort Chene was abandoned in April, 1862, after the guns were spiked (Casey 1983:44).

Union forces moved into the region in October, 1862, under the command of Brigadier General Godfrey Weitzel. Included in the force were four gunboats, *Estella*, *Calhoun*, *Kinsman*, and *Diana* (Goodwin et al. 1985a:62). With the gunboats patrolling the Atchafalaya River and Bayou Teche, the Union troops occupied Brashear City and built additional fortifications. Figure 3-10 shows a map of Union earthworks and minor forts as drawn in 1865 by Captain P. Harris of the U.S. Corps of Topographical Engineers. Included in these were Fort Brashear (later to become Fort Star), shown at the eastern edge of the city, Fort Buchanan, opposite the mouth of Bayou Teche; a water battery on Berwick Bay, and a redoubt located north of the railroad near the center of town (Casey 1983:32-33). Embankments, including two redans, were built to connect the principal earthworks within the city (Casey 1983:33).

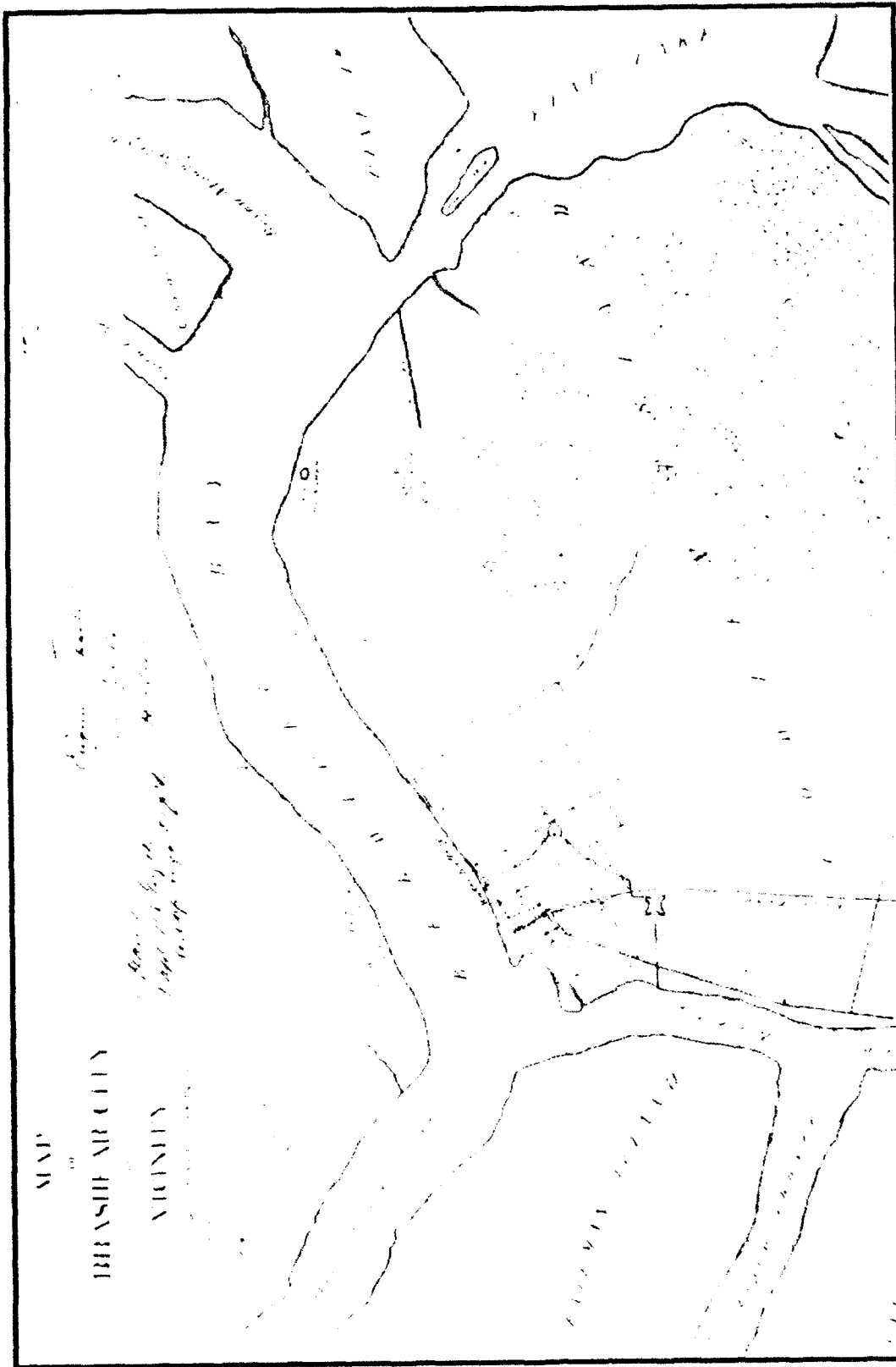


Figure 3-10. Portion of the Union map of Brashear City and Vicinity during the Civil War, showing military installations and associated earthworks. (After Harris 1865, reproduced in Casey 1983:Pl. 47.)

Another minor fort was apparently constructed at Boeuf Station, on the east bank of La Coup just south of the crossing of the railroad. Called Fort Weitzel on several maps of the era, little is known of the post (Casey 1983:243). It may simply have been a small earthwork garrisoned by a few troops.

In June of 1863 the Confederates launched a waterborne assault on the north bank of Tiger Island and captured Brashear City by approaching from the east (Goodwin et al. 1985a:64). At the same time, Confederate forces marched westward from Thibodaux along the railroad line and captured the fort at Boeuf Station (Bergeron 1985:203).

Confederate control of the region was short lived, however. On July 9, 1863, the Confederate forces at Port Hudson surrendered, freeing the large Union siege force for action in south Louisiana. Fearful that Confederate forces would be trapped east of the Atchafalaya River, Major General Richard Taylor, commander of Confederate troops in south Louisiana, ordered all his forces west of Berwick Bay to Bayou Teche. This retreat left the region open to Union forces, which moved in shortly thereafter (Bergeron 1985:204).

Of interest from this time period, is the Confederate map of St. Mary Parish, completed in 1864, after the Confederate withdrawal across Berwick Bay (see Figure 3-3). It not only shows fortification occupied by both sides, but includes the locations of plantation buildings (main houses, sugar mills, quarters areas) along the north bank of Avoca Island. Sections 40, 41, 43, and 47 each contain one plantation complex, while Section 45 appears to contain two complexes. These almost certainly represent the holdings of Wofford, Rochelle, and Edwin Stansbury, the latter a large landowner on Tiger Island who also acquired land on Avoca Island (Goodwin et al. 1985a:49).

Following the Civil War, a period of economic stagnation developed. This lasted throughout much of the Reconstruction era, but was followed by a period of economic growth and renewal in the last few decades of the nineteenth century. This upswing was due to innovations in agricultural practices, such as artificial rice irrigation, to the application of new scientific techniques to cane and cotton farming, to the discovery of oil and sulphur in the southwestern parishes of the state, and to the growth of the lumber industry, which was spurred by the completion of several railroad systems.

An excellent review of the Reconstruction era in the Morgan City area is provided by Goodwin et al. (1985a:64-82). Suffice it here to say that in 1869 Charles Morgan purchased the bankrupt New Orleans, Opelousas, and Great Western Railroad, and renamed it Morgan's Louisiana and Texas Railroad. In conjunction with his fleet of steamships operating out of Brashear City, Morgan's railroad was able to streamline transportation, commerce, and communication with the west. In 1871, Morgan had a ship channel dredged through the Lower Atchafalaya River in order to facilitate his steamship line. By 1873, Morgan's impact on Brashear City had been tremendous, and had helped bring the region out of the economic depths of Reconstruction. As Goodwin et al. (1985a:78) note, that year the Louisiana legislature changed the name of Brashear City to Morgan City, in honor of the various Morgan accomplishments.

By the end of the century continued economic growth in the region had led to significant population increases, resulting in a shortage of land suitable for cultivation. One solution to the problem that was attempted in several areas of Louisiana during this period was land reclamation. The largest project undertaken in the study area was carried out by John N. Pharr and his sons on Avoca Island. Along with other plantation owners on the island, Pharr organized the Avoca Island Drainage District. This district, along with plantations and owner's names, is shown on an 1893 map of the area (Figure 3-11).

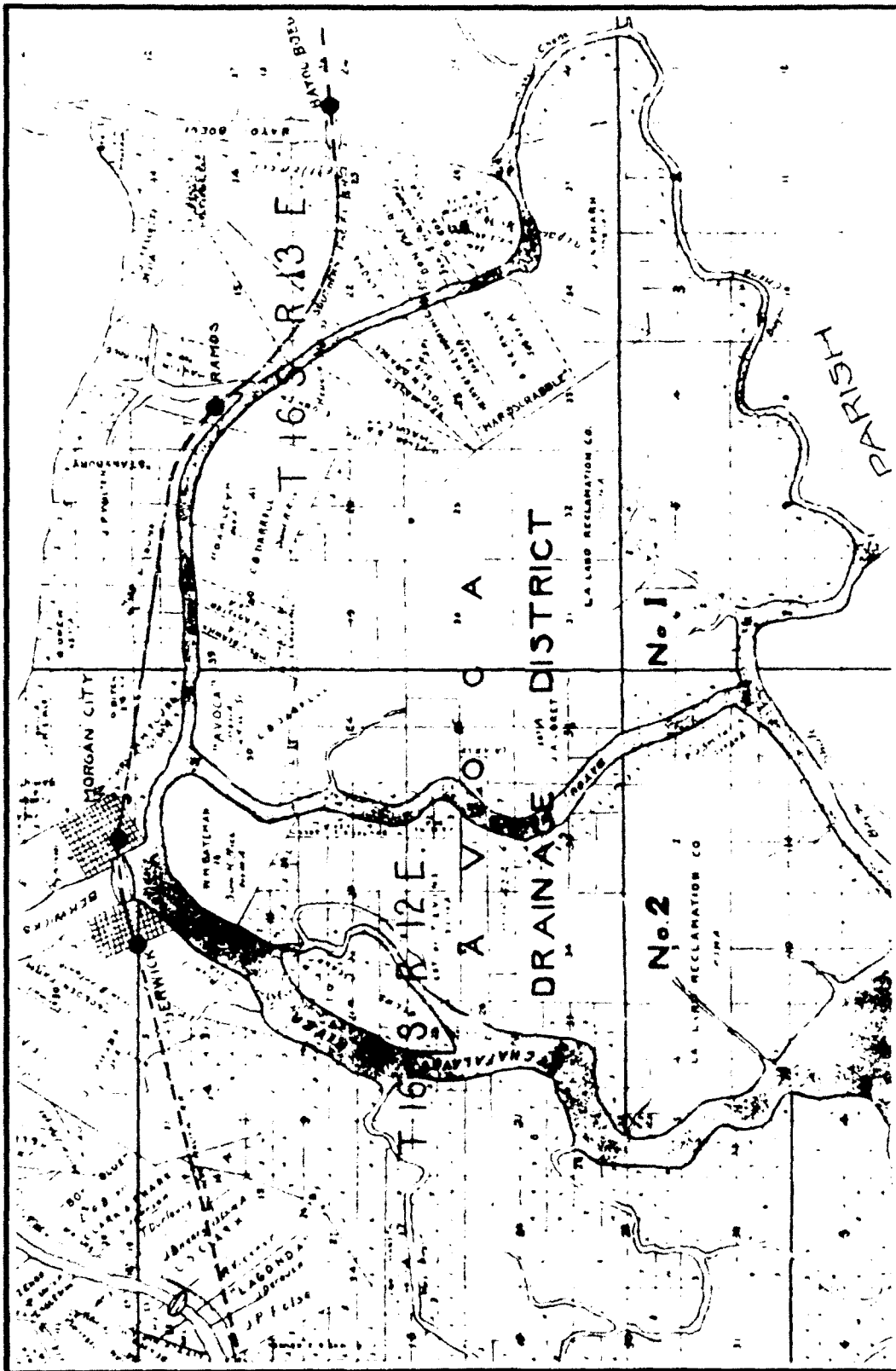


Figure 3-11. The Avoca Drainage District, showing property owners in the Avoca Island vicinity in 1893. (After Waddill and Norcross 1893.)

The reclamation work began in the 1890s with the dredging of canals and the construction of levees and a pumping station on the Pharr's Aleda Plantation located on the eastern end of the island. During the succeeding decade the work, by then under the direction of one of Pharr's sons, Eugene, was expanded to include the entire island.

By 1914 three major pumping stations, 42 mi of canals, and a levee system that surrounded the entire island had been built. The 1935 15-minute quadrangle map of the area (Figure 3-12), produced by the U.S. Army Corps of Engineers (USACE), shows the locations of all three pumping stations, the canals, and the massive levee system. Two of the pumping stations, Nos. 1 and 3, have been assigned state archeological site numbers (16 SMY 52 and 60) and discussed by Gibson (1978b) and Gibson and Stout (n.d.). They were reassessed during the present study. The third pumping station was relocated during the present study, as well, and will be reviewed below.

Apparently, the land-reclamation project was also viewed as a speculative scheme, with a great deal of effort going towards a publicity campaign designed to extoll the virtues of Avoca Island real estate (Gibson and Stout n.d.:5-6). In fact, Pharr was so influential, that he was able to have the new New Orleans-Morgan City highway cross Bayou Chene at the eastern end of Avoca Island, follow the north shore of the island westward to Bayou Shaffer, and then cross Bayou Boeuf to Tiger Island (see Figure 3-12) (Gibson and Stout n.d.:5).

All of this came to an abrupt end, however, with the flood of 1927. The levees were broken in several places, inundating much of the island's interior. Sale of real estate was then out of the question, and by 1928 the entire venture went bankrupt. Shortly thereafter Avoca Island was acquired by the Whitney Bank of New Orleans at a sheriff's sale (Gibson and Stout n.d.:7).

Undoubtedly, the greatest impact to the region as a whole has come within the past 30 years or so. Oil and gas exploration, both in the marshes and swamps of the region and offshore in the Gulf of Mexico, has led to the alteration of much of the area's landscape. Extensive oil-rig fabricating yards have developed along Bayou Boeuf and Bayou Black, reworking and destroying much of the earlier cultural evidence, both prehistoric and historic, for those areas. Hundreds of miles of canals have been dredged for both well sites and pipeline routes, and saltwater has begun to move up these canals destroying large expanses of freshwater marsh. With the loss of the marsh grass, the terrain has broken up and vast areas of open water have developed. Between 1955 and 1978 Terrebonne Parish lost over 116,000 ac of land area due to a combination of subsidence, shoreline erosion, and the breakup of marsh (Wicker et al. 1980).

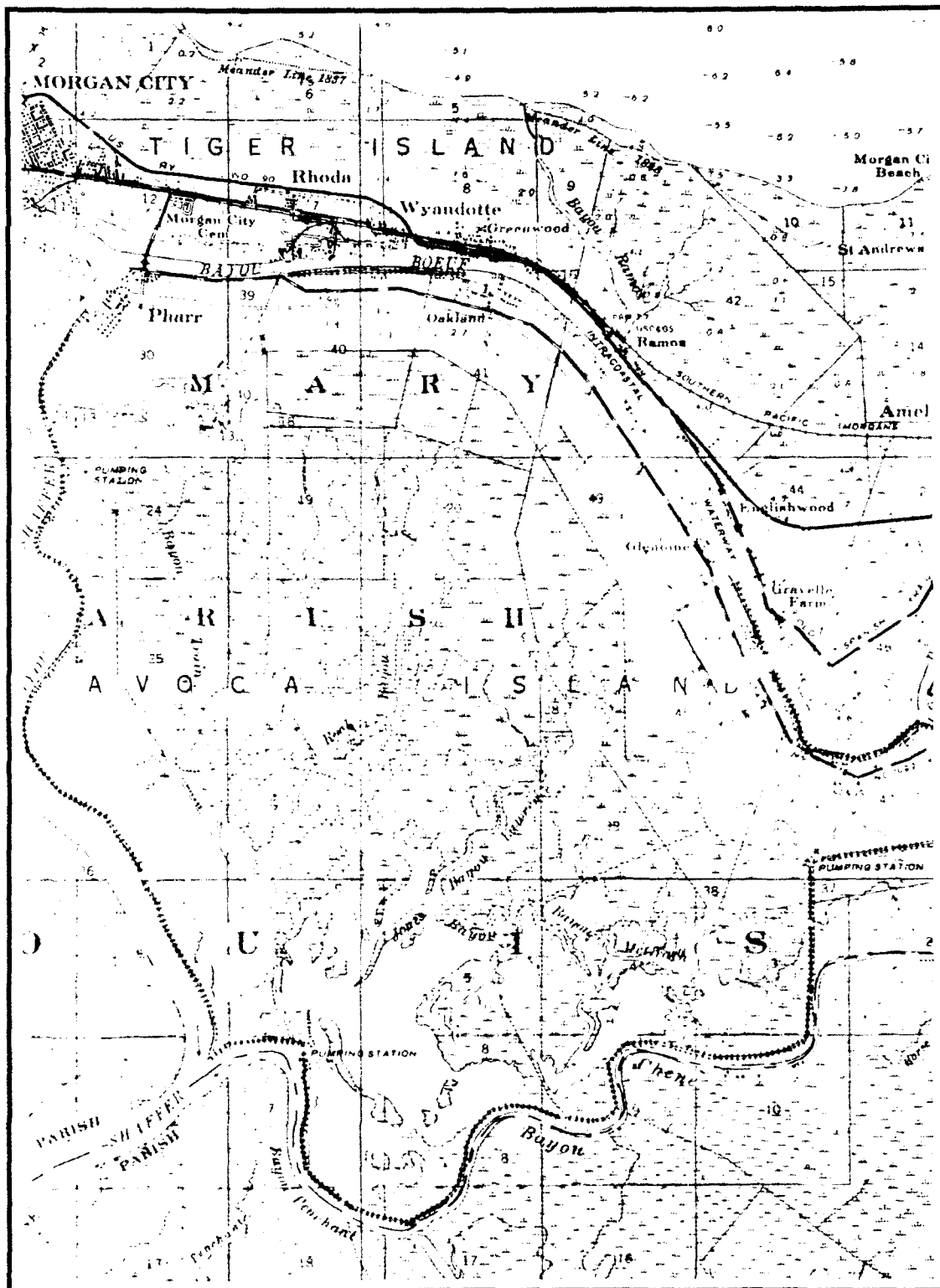


Figure 3-12. Avoca Island in 1935, showing pumping stations, levees, and individual structures. (After U.S. Army Corps of Engineers 1935.)

CHAPTER 4

RESEARCH DESIGN

Research Topics

The foregoing chapters on the environment and sequence of cultural development within the study area have identified a number of problems in our current understanding of human adaptation to this area. In this section a series of hypotheses will be presented which are related to these problems and which will provide an orientation for the present research. The sources of these hypotheses are many and include general models of the behavior of hunter-gatherers (Binford 1980; Jochim 1976) and agriculturalists (Rappaport 1968); previous archeological research within the Lower Mississippi Valley (Phillips 1970; Weinstein et al. 1979a), particularly within the Mississippi Deltaic Plain (Kniffen 1936; McIntire 1958; Gibson 1978b; Gagliano et al. 1979; Wiseman et al. 1979; Gagliano 1984; Goodwin et al. 1985b); and the work of cultural geographers in southern Louisiana (Knipmeyer 1956; Rehder 1971; Comeaux 1972).

The findings of previous archeological and geographical research within the deltaic plain suggest that there has been considerable continuity in certain aspects of human adaptation to the region due to the environmental constraints present. In particular, the spatial relationship of settlements to the landforms or depositional environments of the deltaic plain exhibits a marked consistency through time.

Certain features, especially elevated natural levees, appear to have been the predominant location of human habitation sites of all periods (Kniffen 1936; Knipmeyer 1956; McIntire 1958; Gagliano 1984; Gagliano et al. 1979). Several factors are responsible for this pattern. First, in many cases natural levee ridges were the only elevated and relatively well-drained terrain available. In this regard they provided a base for dwellings and land for agricultural fields. Natural levees also represented an important habitat for terrestrial game, as well as a source for raw materials. A third factor contributing to their extensive use by human groups was their proximity to open water. This was important not only for human subsistence, but for transportation as well.

A conditioning factor for human habitation of a natural levee was the state of the adjacent channel. If the channel was still part of the active delta then flooding may have been severe enough to prevent permanent or even semi-permanent occupation. However, if the channel had been abandoned, then long-term habitation may have been possible. Also of significance was the cycle of biological succession within the surrounding delta which determined the productivity of the nearby swamp and marsh environments (Gagliano and van Beek 1975).

Another feature which was often chosen as the location for habitation sites is a relict beach or barrier island (Sh nkel 1974:41; Brown 1984:100). These features are much less common than natural levees, so that the number of sites actually associated with them is much smaller. In addition, they often did not provide the quantity of elevated, well-drained land available on natural levees.

Other depositional environments found within the deltaic plain, including active and abandoned channels, swamps, marshes, active beaches, lakes and interdistributary bogs,

served primarily as resource extraction zones or transportation routes and were seldom the location of habitations until the advent of recent technologies for flood-proofing structures. Exploitation of these environments often took place from settlements located on nearby natural levees or relict beaches, but may have also involved the utilization of short-term, special-function sites, here termed resource extraction sites. This type of site would be located not only in depositional environments unsuitable for long-term habitation, but also along natural levees or relict beaches beyond the range of habitation sites.

The hypotheses to be examined in this study are grouped under topical headings and presented below, followed by a brief statement of the data required to test each hypothesis and the methods to be used to obtain those data.

I. Culture History

A. Early Prehistoric Occupations

Hypothesis: Although presently unrecorded, Archaic, Poverty Point and Tchula period occupations occur within the study area and are associated with relict Teche-Mississippi deltaic deposits.

Data required: Archaic, Poverty Point, and Tchula period components within the study area.

Research methods: Survey of canal banklines which cut buried or subsided Teche distributary natural levees. Augering to identify landforms with which sites are associated.

B. Marksville Period Occupation

Hypothesis: The Mandalay phase, established by Phillips (1970) on the basis of data reported by McIntire (1958), is representative of Marksville period assemblages within the study area, and it shows greater similarities to Marksville assemblages farther up Bayou Teche than to those east of the study area in the Barataria Basin and the St. Bernard marshes.

Data requirements: Marksville period ceramic assemblages from sites in the study area and previously analyzed Marksville period ceramic assemblages from sites in adjacent regions.

Research methods: Location of Marksville period components within the study area and collection of ceramics from them. Literature search for analyzed Marksville period assemblages from adjacent regions.

C. Coles Creek Period Occupation

Hypothesis: Temporally distinct Coles Creek phases are identifiable within the study area, and these show greater similarities to Coles Creek assemblages located east of the area in the Lafourche Delta than to those further upstream along Bayou Teche.

Data requirements: Coles Creek period ceramic assemblages from sites in the study area and previously analyzed Coles Creek period assemblages from sites in adjacent regions.

Research methods: Location of Coles Creek period components within the study area and collection of ceramics from them. Literature search for analyzed Coles Creek period assemblages from adjacent regions.

D. Mississippi Period Occupation

Hypothesis: Mississippi period occupations within the study area are assignable to the Plaquemine culture. The low frequencies of shell-tempered ceramics present at some of these sites represent trade or some other form of cultural interaction and not the presence of Mississippian culture groups.

Data requirements: Mississippi period ceramic assemblages from sites in the study area.

Research methods: Location of Mississippi period components and collection of ceramics from them.

E. Historic Period Aboriginal Occupation

Hypothesis: Historic period occupations related to the Chitimacha and Houma tribes are present within the study area. Chitimacha assemblages will show continuity with late prehistoric Plaquemine assemblages in this region and will generally date prior to 1800. Houma occupations will occur predominantly in the eastern portion of the study area and date after the 1770s.

Data requirements: Historic period aboriginal artifact assemblages from sites in the study area.

Research methods: Location of Historic period aboriginal components and collection of artifacts from them.

II. Settlement Systems

A. General Locational Factors

Hypothesis: Human habitation sites in the deltaic plain will generally occur on relatively stable, elevated landforms (in this case natural levees and relict beach ridges), while short-term resource extraction sites will occur in a variety of depositional environments.

Data requirements: Representative sample of site locations within the study area and associated landforms. Data on site function.

Research methods: Probabilistic sample survey of a portion of the study area and assessment of age of associated landforms based on current estimates of dates for delta sequence.

B. Relationship to Deltaic Activity

Hypothesis: The majority of prehistoric habitation sites within the study area will be associated with relict deltaic features rather than deposits of an active delta. Resource extraction sites will be associated with both relict and active deltaic environments.

Data requirements: Representative sample of prehistoric site locations within the study area and age of associated landforms. Data on site function.

Research methods: Probabilistic sample survey of a portion of the study area and assessment of age of associated landforms based on current estimates of dates for delta sequence.

C. *Archaic and Poverty Point Period Settlement Systems*

Hypothesis: Archaic and Poverty Point period components within the study area represent the remains of small, probably seasonally occupied habitation sites.

Data requirements: Size data from a representative sample of the Archaic and Poverty Point period components within the study area. Seasonality information where possible.

Research methods: Determine the size of Archaic and Poverty Point period occupations within the study area and collect floral or faunal remains which may provide seasonality information whenever possible.

D. *Tchula Period Settlement System*

Hypothesis: Tchula period occupations within the study area will include semi-permanent villages and small resource extraction sites. These were part of a larger settlement system which included centralized burial mounds, possibly located outside the present study area.

Data requirements: Information on the size, depth of deposits, and variability in artifact frequencies of a representative sample of the Tchula period components in the study area. Information on possible Tchula period mounds in the vicinity of the study area.

Research methods: Determine the size and depth of deposits for Tchula period occupations within the study area. Collect representative samples of artifacts and compare frequencies of various classes. Literature search for information on Tchula period mounds in the vicinity of the study area.

E. *Marksville Period Settlement System*

Hypothesis: Marksville period occupations within the study area will include semi-permanent or permanent villages, some of which had burial mounds, and small resource extraction sites.

Data requirements: Information on the size, depth of deposits, and variability in artifact frequencies of a representative sample of the Marksville period components in the study area.

Research methods: Determine the size and depth of deposits for Marksville period components within the study area. Collect representative samples of artifacts and compare frequencies of various classes.

F. *Coles Creek Period Settlement System*

Hypothesis: Coles Creek period occupations within the study area will include semi-permanent or permanent villages, some of which had platform and burial

mounds, and small resource extraction sites. A more complex site hierarchy will be apparent for this period than any previous period. Larger villages with mounds will be located on the broader natural levees, while resource extraction sites will occur predominantly on the narrow natural levees of small distributaries or crevasses.

Data requirements: Information on the size, depth of deposits, presence of mounds, and variability in artifact frequencies of a representative sample of the Coles Creek period components in the study area. Also information on the size of associated natural levees.

Research methods: Determine the size and depth of deposits for Coles Creek period components within the study area. Attempt to determine cultural affiliation of mounds present at any of these sites. Collect representative samples of artifacts and compare frequencies of various classes. Assess size of associated natural levee through map data and available subsurface information.

G. Mississippi Period Settlement System

Hypothesis: Mississippi period occupations within the study area will include semi-permanent or permanent villages, some of which had multiple or single platform mounds, small agricultural hamlets and small resource extraction sites. The site hierarchy for this period, particularly with respect to mound sites, will be more complex than that for the Coles Creek period. Small agricultural hamlets will occur on the broader natural levees.

Data requirements: Information on the size, depth of deposits, presence of mounds, and variability in artifact frequencies of a representative sample of the Mississippi period components in the study area.

Research methods: Determine the size and depth of deposits for Mississippi period components within the study area. Attempt to determine cultural affiliation of mounds present at any of these sites. Collect representative samples of artifacts and compare frequencies of various classes.

H. Mississippi Period Polities

Hypothesis: Mississippi period occupations within the study area were organized into a series of small polities which will be reflected in the distribution of sites, particularly those in the upper levels of the site hierarchy.

Data requirements: Representative sample of Mississippi period components within the study area and information on their size, depth of deposits, number of mounds, and artifact assemblages.

Research methods: Probabilistic sample survey of a portion of the study area and determination of the size, depth of deposits, and number of mounds for all Mississippi period components. Collection of representative samples of artifacts. Inclusion of comparable data from previously recorded sites where available. Assessment of spatial aggregation of sites.

I. Historic Period Aboriginal Settlements

Hypothesis: Chitimacha occupations within the study area represent the remains of small (single or multiple family) habitation sites and resource extraction sites. Houma

occupations will consist predominantly of single family residences and may be very similar to non-Indian sites in terms of material remains.

Data requirements: Information on the size of a representative sample of the historic aboriginal components within the study area and their associated artifact assemblages. Supplemented by oral histories in the case of the Houma.

Research Methods: Determine the size of historic aboriginal components within the study area and collect representative samples of artifacts from them. Conduct interviews with informants concerning potential Houma sites.

J. Colonial Settlement Systems

Hypothesis: French and Spanish Colonial period occupations within the study area will occur predominantly along the broader natural levees and will include small subsistence farms, cattle ranches, and plantations. These are expected to occur predominantly along Bayou Boeuf, especially the north shore of Avoca Island and the east bank of La Coup, and along the upper reaches of Bayou du Large. These areas were the location of the earliest land claims in the study area, so it is reasonable to predict early historic sites in these locations, as well. A few hunter or trapper cabins will be located on the narrow natural levees of distributaries in the marsh. Such locations in the study area would include bayous Shaffer, Chene, Penchant, Mauvais Bois, Small La Pointe, and the Marmande Ridge.

Data requirements: Information on the size, internal complexity, and artifact assemblages of a representative sample of the Colonial period components in the study area. Supplemented by archival information where possible.

Research methods: Determine the size and internal complexity of Colonial period components within the study area and collect representative samples of artifacts from them. Carry out archival research on the properties where possible.

K. Antebellum Settlement System

Hypothesis: Antebellum period Anglo-American occupations within the study area will include cotton and sugar plantations located on the broader natural levees, principally along the north shore of Avoca Island and the northern end of Bayou du Large; small subsistence farms located predominantly on the smaller natural levees but occasionally on the larger levees as well, particularly along the banks of that stretch of Bayou Boeuf known as La Coup and on the middle reaches of Bayou du Large; and hunter or trapper cabins located on the narrow natural levees of small distributaries in the marsh, such as bayous Shaffer, Chene, Penchant, Mauvais Bois, Small La Pointe, and the Marmaude Ridge.

Data requirements: Information on the size, number, and types of structures and artifact assemblages of a representative sample of the Antebellum period components in the study area. Supplemented by cartographic and archival information where possible.

Research Methods: Determine the size of the Antebellum period components as well as the number and types of standing structures. Collect representative samples of artifacts from them. Carry out archival research on these properties where possible.

L. Postbellum and Modern Settlement Systems

Hypothesis: Postbellum and Modern period occupations within the study area will include sugar plantations and independent sugar mills located on the broader natural levees, particularly the north shore of Avoca Island and the northern portion of Bayou du Large; lumber mills located on natural levees where railroad lines crossed them, such as at Donner and Chacahoula; small subsistence farms located predominantly on the smaller natural levees, principally the La Coup stretch of Bayou Boeuf and the middle reaches of Bayou du Large; residences of industrial and commercial workers, especially along the developed portions of Bayou Boeuf such as La Coup; facilities related to oil and gas exploration; and hunter or trapper cabins located on the narrow natural levees of small distributaries in the marsh, particularly those noted above, such as bayous Chene, Penchant, Shaffer, Magnin's Bois, Small La Pointe, the lower reaches of du Large, and the Marmande Ridge.

Data requirements: Information on the size, number and types of structures and artifact assemblages of a representative sample of the Postbellum and Modern period components in the study area. Supplemented by map and archival information where possible.

Research methods: Determine the size of Postbellum and Modern period components as well as the number and types of standing structures. Collect representative samples of artifacts from them. Carry out archival research on the properties where possible.

III. Demography

A. Population Change through Time

Hypothesis: Prehistoric population within the study area exhibited a gradual increase through time.

Data Requirements: Information on the sizes of a representative sample of components of all prehistoric culture periods within the study area.

Research methods: Probabilistic sample survey of a portion of the study area and determination of the size of all identified components. Inclusion of size data from previously recorded sites in the study area. Assessment of the change in total area occupied per culture or per century.

Field Methods

The hypotheses outlined in the previous section involve generalizations concerning human occupation of the study area in the past. Testing many of these hypotheses required the location of a representative sample of the archeological sites present there. The only way of obtaining such a sample with definable confidence limits was either to survey the entire area or to select a probabilistic sample of it. Given the time and monetary requirements of the former, a sampling strategy was the obvious choice.

Two types of strategies were employed for the present research based on the nature of the construction alternatives and the requirements of the Scope of Work. A probabilistic sample survey was utilized in the Terrebonne marsh subarea, and a combination of random and judgemental strategies was employed for the reconnaissance surveys within the barrier alternatives.

Terrebonne Marsh Survey

A variety of sampling designs have been employed by archeologists, and comparisons of the various types have been undertaken by Mueller (1974) and Plog (1976). The sampling design selected for the Terrebonne marsh subarea was a stratified random sample. Data presented by Plog (1976:149-151) indicate that it is more efficient (offers greater precision) than simple random, systematic, or stratified systematic unaligned designs. The sampling strata in this case were based on the depositional environments found within the subarea. As noted previously, the results of previous archeological research in the Mississippi Deltaic Plain and the distribution of known sites in the study area suggest that two of these landforms, natural levees and abandoned beaches, were frequently the location of human habitations. These two depositional environments were therefore treated as a single sampling stratum. The remaining depositional environments within the subarea: abandoned channels, inland swamps, marshes, and active beaches, are thought to represent resource extraction zones rather than habitation locales. Short-term resource extraction sites may have been located in these environments, but, in general, the site density there was probably much lower than that on the natural levees and abandoned beaches. In addition, some of these depositional environments have changed significantly during the course of human occupation of the region, and their present distribution may have little relationship to patterns of human utilization of the area in the past. For these reasons they were combined and treated as a second sampling stratum. Random samples were then selected within each stratum.

The conduct of a systematic survey in an area composed predominantly of wetlands with narrow ridges of elevated terrain posed a number of problems. In an effort to overcome some of these problems two types of sampling units and associated survey methods were employed in this area. One unit consisted of canal segments which were surveyed by boat. The canal system within the Terrebonne marsh has been largely developed over the past 50 years in connection with the oil and gas industry. The system of canals is extensive and offers the dual advantage of easy access to the marsh and, in its spoil banks, a sample of the subsurface deposits. While the location and orientation of canals is not strictly random, it appears to be unbiased with respect to most of the depositional environments of the study area. The exceptions are elevated natural levees and relict beaches. On those features pedestrian transects were employed. The use of two different survey methods raises questions about the comparability of the data generated by each, but this approach was necessitated by the environmental constraints of the study area.

Following the suggestion of the Scope of Services for this study, the Terrebonne marsh survey was designed to cover an area of 3000 ac or approximately 1% of the total acreage of the Terrebonne marsh subarea. One half of the survey coverage (1,500 ac) was to be expended upon what were deemed areas of low probability for site occurrence corresponding to the second sampling stratum noted above (i.e., resource extraction zones such as inland swamps, marshes, etc.). All of the coverage of this low-probability zone was to be achieved via the canal survey. In order to convert the linear canal survey units into area figures, an average width of 100 ft was assumed. Therefore, 123.6 mi of canal length was required to produce the 1500-ac coverage of this stratum.

The remaining 1500 ac of survey coverage was to be expended upon the other sampling stratum, consisting of natural levees and abandoned beaches, and representing landforms which had a presumed high site probability. Half of the coverage of this stratum was to be achieved via the canal survey and the other half through pedestrian survey of exposed portions of this stratum. The canal portion of this survey was specifically designed to examine subsided and buried high-probability landforms which were inaccessible through conventional terrestrial survey. The canal survey involved 61.8 mi of canal coverage and the pedestrian survey consisted of 31.2 mi of 200-ft-wide transects.

To operationalize the sampling design the survey area had to be divided into the two selected sampling strata, and the sampling units had to be selected. Each procedure is discussed below.

Sampling Strata

Delineation of the two sampling strata relied on the recent geologic and geomorphic study of the area developed by Smith et al. (1986). All natural levee and abandoned beach landforms were identified. This included those features exposed at the surface as well as those that Smith et al. (1986) identify as subsided and buried channels, the reason being that these buried channels have associated natural levees. The size of the natural levees associated with these subsided distributaries is currently unknown. However, for the purposes of this study it was assumed that levees associated with major distributary channels extend 0.2 mi either side of the channel, while those of smaller distributaries extend 0.1 mi either side of the channel.

The second sampling stratum, representing those zones having a presumed low probability of containing archeological sites, included all areas identified as inland swamp, fresh marsh, brackish marsh, and salt marsh.

Sampling Units

Canals. Selection of the canal sampling units involved first identifying all canals in the survey area that would allow boat access. This identification relied on using recent topographic maps, 1985 aerial photography, and an aerial reconnaissance of the study area in September 1986. Sections of canals crossing identified high-probability landforms were delineated, as were sections crossing low-probability areas. Each of these sections were then divided into 2-mi-long segments. These segments were either single linear units along a canal or, more commonly, since canals were generally less than 2 mi in length, were comprised of smaller lengths of spatially adjacent canal(s). These 2-mi segments represent the sampling units used. Each unit then was numbered, and 193 low-probability and 63 high-probability survey units were identified. Using a random numbers table (Young and Veldman 1972:Appendix H), 63 low probability units and 32 high probability units were selected for survey. The use of the random numbers table in sample selection assured that each sampling unit had an equal chance of being chosen at each selection. The locations of the selected canal units are shown on Plate 3.

Pedestrian Transects. Pedestrian transects were designed to survey exposed high-probability features in the area. These areas are located primarily in the eastern and northern portion of the survey area and consist primarily of southward- or eastward-trending natural levees. To take advantage of this natural configuration and to include entire levee segments from flank to channel, pedestrian transects were oriented either east-west or north-south.

Beginning at the juncture of Bayou du Large and the GIWW, transects were spaced every 0.2 mi southward or westward to incorporate all of the area of exposed high-probability landforms. Each survey transect was 200 ft wide. One hundred seventy-five transects were identified and numbered. Each transect consisted of all of the exposed high-probability surface(s) along its length. A table of random numbers (Young and Veldman 1972:Appendix H) was used to select transects until a total length of 31.2 mi was achieved. This length represents a total areal coverage of 750 ac.

Survey Methods

The canal segments were surveyed by two-person crews operating in small boats. Both banks of the canals were carefully examined, and if they were obscured by vegetation small areas were cleared or the bankline was probed at 150-ft intervals. If a canal segment was inaccessible, it was replaced by a pre-selected backup segment located in the same sampling stratum.

The pedestrian transects also were surveyed by two-person crews walking parallel paths 50 ft apart down one half of the 200-ft-wide transect and back along the other half. Shovel tests were excavated at 150-ft intervals along each half of the transect, and the soil from all tests was screened through 1/4-inch wire mesh. If artifacts or other indications of human activities were encountered in either the pedestrian transects or canal segments, then the site assessment procedures discussed below were initiated.

Selection of 12 Representative Sites

Twelve previously recorded sites located within the Terrebonne marsh survey area were to be selected for revisits and assessment. As noted earlier, many of the known sites were reported over 30 years ago and have not been examined since then. The main goal of these revisits was to aid in determining the extent of site damage and site loss the area has experienced since extensive saltwater intrusion and marsh deterioration began. By comparing the original site descriptions, most of which were made prior to extensive impact from oil and gas activities, with the present conditions, it was expected that a prediction could be made on the extent of damage, if any, suffered by other sites in the area.

Additional goals of the revisits were to gather data necessary for the paleogeographical reconstruction of the region, and to fill in gaps resulting from areas not covered in the stratified survey coverage. In the latter case, sites were chosen that occur in sections of the Terrebonne marsh which did not have the opportunity of being sampled simply because either few or no canals are present near them. This is particularly true in the south-central part of the survey area, between Lake Merchant and Lost Lake, and in the extreme southeastern corner of the area around Caillou Lake, Bay Voisin, and King Lake.

Barrier Alternative Reconnaissance Surveys

The reconnaissance surveys of the proposed alignments of the Ring Levees/U.S. 90 Barrier Alternative and the Industry Relocation/GIWW Barrier Alternative were to examine portions of these impact zones not previously covered in intensive surveys. Since the natural levee of Bayou Black was to be sampled by terrestrial transects as part of the Terrebonne marsh survey, it was believed that no further reconnaissance would be necessary for the Bayou Black Alternative. Thus, it was not examined as one of the barrier alternatives.

These reconnaissance surveys included elements of both random and judgmental sampling strategies. Much of the proposed alignment of the ring levees has been altered by commercial and industrial development. Within this alignment pedestrian survey was conducted in areas of available exposed ground, and boat survey was to examine undisturbed portions of the bankline of Bayou Boeuf. In the proposed industry relocation area, pedestrian survey was carried out along randomly selected field roads which cross the northern portion of Avoca Island, and in high-probability areas which were accessible and which offered some exposed ground. Finally, a boat survey was conducted of high-probability areas located along the south side of the GIWW. The total acreage covered by these surveys is impossible to estimate due to the varied techniques employed.

Site Assessments

Although sites examined during both the barrier alternatives and the Terrebonne marsh portions of the study received the same basic treatment, there were minor variations. Thus, each study segment will be reviewed separately. The overall aim of the assessment program was to determine whether or not a site is eligible for inclusion in the National Register, or if a site is potentially eligible for the Register.

Louisiana Division of Archaeology site forms were filled out for all new sites, and update forms were submitted for all sites revisited during the study. In addition, all data necessary for computerization according to the ASIS requirements were collected to expand this data base.

Barrier Alternatives

Each of the twenty sites slated for assessment during this portion of the study, along with proposed assessment procedures are listed in Table 4-1. The present discussion will simply provide more detail on each of the procedures.

1) Survey. This procedure was to entail a pedestrian search of the reported site area to locate midden areas, whether these were exposed shell lenses, organically stained earth-midden lenses, or low midden "mounds" situated in swamp or marsh. It would be necessary at times to excavate shovel holes in selected locales to determine whether a site was, in fact, present prior to the initiation of subsequent assessment procedures. Once located, a site was to be photographed from various angles to provide a record of its condition.

2) Subsurface Testing. Two methods of systematic subsurface testing were to be employed depending on the condition and location of each site. For sites which were exposed in a linear fashion along either canals or natural waterways, lines of auger or shovel tests would be placed perpendicular to the bank, with each line equidistant from each other. Depending on site size, it was estimated that both lines and tests would be spaced either 30 or 60 ft apart.

In some cases, such as at the Thibodaux site (16 AS 35), where midden segments extended for over 1 mi along the bank, it was necessary to increase the spacing between lines. Elsewhere, such as at sites 16 SMY 125 through 129, where each site was reportedly only 15 to 30 ft in length, it was necessary to reduce line spacing to 15-ft intervals to obtain a more accurate estimate of site size.

For well-preserved, intact sites which were not oriented parallel to a specific bankline, such as the mound and "knolls" at 16 SMY 20 and the oval-shaped midden at Oak Chenier (16 SMY 49), a "ray" pattern of auger or shovel test lines was employed. In this system, the presumed central point of each site or midden location was identified and a series of lines run out from that point at specific angles to the cardinal directions. Initially, lines were to be placed at 90°, 180°, 270°, and 360°. These could be supplemented by additional lines at 45°, 135°, 225°, and 315°, if more detailed information on site size was required. Auger or shovel test spacing along each line varied according to overall site size, but distances of 15, 30, and 60 ft were most often used.

Data from each auger or shovel test was recorded separately on CEI forms. Information recorded for each identifiable soil stratum included depth, soil type, soil color, soil texture, and inclusions (such as charcoal, sherds, lithics, faunal remains, etc.).

Table 4-1. Sites Selected for Assessment for the Two Barrier Alternatives.

SITE NO.	SITE DESCRIPTION	PROPOSED PROCEDURES
16 AS 35	Extensive shell midden stretching for about 2.2 km along Bayou Boeuf. Portion south of U.S. 90 Barrier contained at least three visible, and horizontally distinct, shell lenses in 1977. Much of areas between lenses bulkheaded or covered with trash. Area back from bank may be continuous midden or lenses may represent separate shell-disposal areas.	Survey to locate lenses. Auger each lense location to determine extent. Systematically surface collect along bankline. Draw sketch map of site and/or each lens location.
16 SMY 20	Moderate-size, in situ <i>Rangia</i> and earth midden or mound, measuring 70 by 30 m and 1.7 m high. Three smaller midden "knolls" located nearby.	Survey to locate separate midden areas. Auger each midden area to determine extent. Sketch map.
16 SMY 44	Extensive <i>Rangia</i> shell midden, much apparently intact. Site measures 350 m along bank by 4 m in width, and 5 to 30 cm thick. One extension of site goes back 75 m from bank. Covered by 15 cm of spoil.	Auger to determine extent. Systematic surface collection along bank. Sketch map.
16 SMY 49	Moderate-size, intact <i>Rangia</i> midden, 124 by 173 m and about 4.5 m thick at thickest point. Straufied shell lenses reported in Gibson's test pit, along with one human burial.	Auger to confirm size estimates. Sketch map.
16 SMY 52	Early-twentieth-century pump house with intact internal machinery.	Examine structure for construction data. Photograph.
16 SMY 60	Early-twentieth-century pump house with intact internal machinery.	Examine structure for construction data. Photograph.
16 SMY 62	<i>Rangia</i> midden exposed by canal construction. In situ sections about 10 to 15 cm thick, covered by 1.8 m of spoil. About 40 m of material incorporated in spoil.	Auger to determine extent. Systematic surface collection of spoil. Sketch map.
16 SMY 63	<i>Rangia</i> midden (or middens) hit by canal construction. Material covers about 60 m along spoil. Augering revealed two shell lenses, the first to -74 cm and second at between -116 and -118 cm. Two separate clusters of material on spoil suggesting possibly two sites hit by canal.	Auger to determine extent of two possible sites. Systematic surface collection. Sketch map.
16 SMY 65	Well-preserved, in situ <i>Rangia</i> and earth midden about 40 m long, 8 m wide, and 33 cm deep.	Auger to confirm dimensions. Sketch map.
16 SMY 125 through 16 SMY 129	Five horizontally separate lenses of <i>Rangia</i> shell exposed along south bank of Bayou Boeuf. Each about 5 to 10 m long, 15 to 20 cm thick, and covered by alluviation of spoil. Possibly once one site and possibly part of 16 SMY 44.	Auger to determine dimensions. Collect along bayou at each site. Sketch map of each locals.
16 SMY 142	Wave-washed <i>Rangia</i> midden 51 m long by 4 m wide.	Survey of assess condition. Systematic surface collection. Auger to confirm wave-washed condition. Sketch map.

(continued)

Table 4-1. concluded.

SITE NO.	SITE DESCRIPTION	PROPOSED PROCEDURES
16 SMY 143	Wave-washed <i>Rangia</i> midden covered by 1.3 m of spoil. At least 9 m long but width unknown.	Survey to assess condition. Systematic surface collection. Auger to confirm wave-washed condition. Sketch map.
16 SMY 144	Disturbed <i>Rangia</i> midden about 32 m long with dirt piled atop. Several lenses exposed in bank, about 5 to 10 cm thick.	Survey to assess condition. Systematic surface collection. Auger to assess condition of lenses. Sketch map.
16 SMY 145	Spoil pile containing numerous historic artifacts dredged from Bayou Boeuf in 1976. Spoil extends for 150 m along bayou, but most artifacts found in southern half.	Survey to assess condition. Sketch map.
16 TR 84	<i>Rangia</i> midden exposed in bank of GIWW. 10 m long by 10- to 15-cm thick, covered by 60 cm of spoil.	Auger to determine extent. Systematic collection along GIWW. Sketch map.
16 TR 87	<i>Rangia</i> lens exposed in bank of GIWW. 3 m long and 20 cm thick. Capped by several feet of spoil.	Auger to determine extent. Systematic collection along GIWW. Sketch map.

3) **Surface Collection.** As with the subsurface tests, two systematic surface collection methods were to be employed, again depending on site condition and location. First, because many sites were situated in a linear pattern along canals or watercourses and had been cut by the adjacent water body, an accumulation of lag "beach" material was produced along the bank. This beach material was to be sectioned off into 15-, 30-, or 60-ft-long collecting units, depending on overall length of the beach deposit. All cultural material would then be collected by unit. Second, if surface visibility atop the bank was adequate, then collection transects corresponding to the subsurface test lines were to be utilized. In these instances, each collecting unit was to consist of that segment located between adjacent subsurface tests along each line. The units were to be 6 ft wide.

Sites not cut by waterways were to be collected solely on the basis of subsurface test transects similar to those just described. When surface visibility allowed, each ray was to be sectioned into collecting units equivalent to the spacing between adjacent test locations, and also was to be 6 ft wide.

4) **Sketch Map.** A scaled sketch map was to be produced for each assessed site, showing the locations of all subsurface tests and surface collection units. Important environmental, cultural, and physiographic features, such as canals, modern standing structures, vegetation, etc., were to be included on the map.

Terrebonne Marsh

All sites located during the sample survey of the Terrebonne marsh area, along with the 12 supplemental sites selected as a representative sample of those in the marsh unit, were to be assessed. This included sites in both low- and high-probability strata. The following assessment techniques were to be employed at each locale:

1) **Subsurface Testing.** Auger or shovel tests were to be either in the linear or ray pattern as described above under the discussion of site assessment for locales within the two better alternatives, dependent upon site conditions and location. It was expected that earth-midden sites situated on elevated natural levees, and crossed during the terrestrial transect portion of the sample survey, would be examined principally through the use of shovel tests. Buried or subsided shell middens, on the other hand, would be assessed by auger borings. When shovel tests were incorporated in the assessment procedures, all soil removed from each hole was to be dry-screened through 1/4-in wire mesh. Stratigraphy, soil color, texture, etc., would be recorded in the same fashion as described above.

2) **Surface Collection.** Two systematic surface collection methods were to be employed, again depending on site condition and location. Many of the sites were expected to occur in a linear pattern along canals or watercourses, and have been cut by the adjacent waterbody, thereby producing an accumulation of lag "beach" material along the bank. This beach material was to be sectioned off into 15-, 30-, or 60-ft-long collecting units, depending on overall length of the beach deposit. All cultural material would then be collected by unit. In addition, if surface visibility atop the bank was adequate, then collection transects corresponding to the subsurface test lines would be utilized. In these instances, each collecting unit was to consist of that segment located between adjacent tests along each line. The units would be 6 ft wide.

Sites not cut by waterways were to be collected solely on the basis of subsurface test transects similar to those just described. When surface visibility allowed, each ray was to be sectioned into collecting units equivalent to the spacing between adjacent test locations, and would be 6 ft wide.

3) **Sketch Map.** A sketch map was to be produced for each assessed site. The map would be to scale and show the locations of all subsurface tests and surface collection units. Important environmental, cultural, and physiographic features, such as canals, modern standing structures, vegetation, etc., were also to be included on the map.

Laboratory Methods

Following completion of the fieldwork, all artifacts, faunal remains, and other collected data, were brought back to the laboratory for analysis. Such analysis was guided by the need to address the various hypotheses posed previously. In particular, it was necessary to determine cultural components represented at each site, their approximate chronological position, and the functional nature of each component.

Identification of the prehistoric cultural components and chronological position was based almost entirely on the classification of ceramic artifacts. Other items, such as lithic artifacts and faunal remains, were collected but not analyzed, as they represented such a minute portion of the material recovered and were not temporally diagnostic. All aboriginal ceramics recovered during the project were classified according to the type-variety system. Wheat et al. (1958) first developed the system for the southwestern United States. Phillips (1958) modified the system for use in the Southeast, and later (1970) employed it as the backbone of his lower Yazoo Basin research. It has since been used on a regular basis by archeologists working in the Lower Mississippi Valley and adjacent areas.

No new types or varieties were recorded during the present study, although several aspects of the classification deserve special mention and are discussed below. Ceramic types and varieties identified during this study are listed in Table 4-2. This list identifies those publications in which the most useful data on each type and variety can be found. It does not present a chronological listing of references, simply because many of the types have been

Table 4-2. Aboriginal Ceramic Types, Varieties, and Poverty Point Objects Encountered in the Present Study.

Addis Plain var. <i>Addis</i> - Steponaitis (1974), Brown 1985a var. <i>Greenville</i> - Steponaitis (1974), Brown 1985a var. <i>Junkin</i> - Steponaitis (1974), Brown 1985a	Cracker Road Incised var. <i>Cracker Road</i> - Brown (1979, 1985a)
Anna Incised var. <i>Australia</i> - Brown (1985a)	Evansville Punctated var. <i>Braxton</i> - Phillips (1970), Williams and Brain (1983) var. <i>Rhinehart</i> - Phillips (1970), Williams and Brain (1983)
Avoyelles Punctated var. <i>Dupree</i> - Williams and Brain (1983) var. <i>Tatum</i> - Williams and Brain (1983)	Fatherland Incised var. <i>Bayou Goula</i> - Steponaitis (1974), Brown (1985a) var. <i>Fatherland</i> - Steponaitis (1974), Brown (1985a) var. <i>Nancy</i> - Brown (1985a) var. <i>Stanton</i> - Steponaitis (1974), Brown (1985a)
Barton Incised - Williams and Brain (1983)	French Fork Incised var. <i>Brashear</i> - Weinstein et al. (1978) var. <i>Iberville</i> - Phillips (1970) var. <i>Lafayette</i> - Gibson (1976) var. <i>Larkin</i> - Phillips (1970), Williams and Brain (1983) var. <i>Pousson</i> - Gibson (1976) var. <i>Wilzone</i> - Phillips (1970), Williams and Brain (1983)
Baytown Plain var. <i>Little River</i> - Phillips (1970) var. <i>Marksville</i> - Toth (1988) var. <i>Percy Creek</i> - Phillips (1970) var. <i>Satartia</i> - Phillips (1970), Williams and Brain (1983) var. <i>Troyville</i> - Phillips (1970)	Grace Brushed var. <i>Grace</i> - Williams and Brain (1983)
Bell Plain - Williams and Brain (1983)	Harrison Bayou Incised var. <i>Harrison Bayou</i> - Phillips (1970), Williams and Brain (1983)
Chevalier Stamped var. <i>Cornelia</i> - Williams and Brain (1983) var. <i>Lulu</i> - Williams and Brain (1983) var. <i>Perry</i> - Williams and Brain (1983)	Lake Borgne Incised var. <i>Cross Bayou</i> - Gibson (1976), Weinstein and Rivet (1978) var. <i>Lake Borgne</i> - Weinstein and Rivet (1978)
Churupa Punctated var. <i>Churupa</i> - Phillips (1970) var. <i>Thornton</i> - Phillips (1970)	Larto Red var. <i>Larto</i> - Phillips (1970), Williams and Brain (1983) var. <i>Silver Creek</i> - Phillips (1970), Belmont and Williams (1981)
Coleman Incised - Phillips (1970), Williams and Brain (1983)	L'Eau Noire Incised - Williams and Brain (1983)
Coles Creek Incised var. <i>Athanasio</i> - Wiseman et al. (1979), Brown (1984) var. <i>Blakely</i> - Williams and Brain (1983) var. <i>Coles Creek</i> - Phillips (1970) var. <i>Dozier</i> - Brown (1984), Fuller and Fuller (1987) var. <i>Greenhouse</i> - Williams and Brain (1983) var. <i>Hardy</i> - Williams and Brain (1983) var. <i>Mott</i> - Williams and Brain (1983) var. <i>Stoner</i> - Williams and Brain (1983)	

(continued)

Table 4-2. concluded.

Leland Incised var. <i>Foster</i> - Steponaitis (1974), Brown (1985a) var. <i>Russell</i> - Williams and Brain (1983), Brown (1985a) var. <i>Williams</i> - Williams and Brain (1983), Brown (1985a)	Orleans Punctated var. <i>Boothe</i> - Gibson (1976), Weinstein and Rivet (1978)
Maddox Engraved var. <i>Emerald</i> - Steponaitis (1974), Brown (1985a)	Owens Punctated var. <i>McIlhenny</i> - Brown and Lamert-Brown (1979)
Marksville Incised var. <i>Goose Lake</i> - Phillips (1970) var. <i>Marksville</i> - Toth (1988) var. <i>Prairie</i> - Toth (1988) var. <i>Spanish Fort</i> - Phillips (1970), Williams and Brain (1983) var. <i>Sunflower</i> - Toth (1988) var. <i>Yokena</i> - Phillips (1970), Williams and Brain (1983)	Plaquemine Brushed var. <i>Plaquemine</i> - Phillips (1970), Steponaitis (1974)
Marksville Stamped var. <i>Troyville</i> - Phillips (1970), Williams and Brain (1983)	Pontchartrain Check Stamped var. <i>Lambert Ridge</i> - Brown (1982, 1984), Fuller and Fuller (1987) var. <i>Pontchartrain</i> - Brown (1982) var. <i>Tiger Island</i> - Weinstein et al. (1978), Brown (1982)
Mazique Incised var. <i>Back Ridge</i> - Brown (1984), Fuller and Fuller (1987) var. <i>Bruly</i> - Weinstein et al. (1978) var. <i>Kings Point</i> - Williams and Brain (1983) var. <i>Manchar</i> - Williams and Brain (1983) var. <i>Mazique</i> - Phillips (1970), Williams and Brain (1983) var. <i>Sweet Bay</i> - Brown (1984), Fuller and Fuller (1987)	Poverty Point Objects Amorphous - Ford and Webb (1956), Webb (1982) Biconical plain - Ford and Webb (1956), Webb (1982) Biconical grooved - Ford and Webb (1956), Webb (1982) Biscuit-shaped incised - Webb (1982) Biscuit-shaped plain - Ford and Webb (1956), Webb (1982) Melon-shaped grooved - Ford and Webb (1956), Webb (1982) Spheroidal incised - Webb (1982) Spheroidal plain - Ford and Webb (1956), Webb (1982)
Medora Incised var. <i>Medora</i> - Phillips (1970)	Tammany Punctated var. <i>Brittany</i> - Weinstein and Rivet (1978) var. <i>Dutch Town</i> - Weinstein and Rivet (1978) var. <i>Tammany</i> - Weinstein and Rivet (1978)
Mississippi Plain - Phillips (1970), Williams and Brain (1983)	Tchefuncte Incised var. <i>Bayou Braud</i> - Weinstein and Rivet (1978) var. <i>Tchefuncte</i> - Weinstein and Rivet (1978)
Mound Place Incised - Phillips (1970), Fuller and Stowe (1982)	Tchefuncte Plain var. <i>Tchefuncte</i> - Weinstein and Rivet (1978)
Old Town Red - Phillips (1970), Belmont and Williams (1981)	Woodville Zoned Red var. <i>Woodville</i> - Phillips (1970), Belmont and Williams (1981)

known in the literature for several decades, and the original sorting criteria have changed over the years. The references cited were the most useful to the present authors, and it is expected others will find them to be of similar value.

In regard to clarifying several classification points, two items need to be addressed briefly. First, is the fact that neither of the two varieties established by Altschul (1978), Baytown Plain, *var. Terrebonne* and Mazique Incised, *var. Bayou du Large*, were utilized in the present study, although they would seem to occur in the region. The first appears to be nothing more than a local, fire-clouded, polished plainware. As Phillips (1970) earlier had established the *Little River* variety of Baytown Plain to cover the central and southern portions of Louisiana, there is no need to set up a new variety to replace it. Thus, the name *Little River* is retained in this report.

Altschul's *var. Bayou du Large* was not used, despite its attractive name, since it is difficult to determine from his description exactly how to sort the variety (Altschul 1978:161). It is described as "Dunkin-like," yet its description would imply that something akin to typical Mazique Incised, *var. Manchac* actually is involved. As the present survey failed to locate anything that could not be easily assigned to an existing variety of Mazique Incised, even though we clearly looked at collections that should have had similar, abnormal material, it is likely that Altschul's *Bayou du Large* actually is a minor variant of typical *Manchac*.

The second aspect of the classification concerns several sherds of Anna Incised and Leland Incised which occurred on a ware equivalent to Baytown Plain. This is in contrast to the normal situation in which both types occur on ware equivalent to either Addis Plain or Bell Plain (Steponaitis 1974; Brown 1985a; Williams and Brain 1983). This fact, coupled with the association of these few specimens with very early Plaquemine culture assemblages, particularly as found at site 16 TR 56, suggests that such sherds represent the earliest versions of their respective types. They most likely indicate a situation where resident potters were initially exposed to new decoration, but that these decorations were still produced on pastes representative of the local preparation technology (grog-tempered Baytown Plain). For the purposes of the present study, these sherds will be listed as either Anna or Leland Incised, *var. unspecified* and specifics of each will be noted as appropriate. They are important, however, as apparent ceramic indicators of an indigenous population taking on certain aspects of early Plaquemine culture.

Following ceramic classification, assessments of prehistoric site function were then made on the basis of several lines of information including site size, depth of deposits, presence and nature of features, density of artifacts, and certain characteristics of the artifact assemblage. The latter would include the functional categories of bone or stone tools present, the stages of bone or stone tool manufacture represented, the presence of ceramics, and the ceramic vessel forms represented. By using these attributes it was hoped that an initial classification of settlement types could be developed for the area.

Temporal identification of historic sites relied on established chronologies for historic artifact classes, particularly ceramics and glass, supplemented by documentary information such as maps and land ownership records. Functional assessments of these sites were made on the basis of a functional classification of historic artifacts as discussed by South (1977) and in previous CEI reports (Castille 1979; Castille et al. 1986). In addition, specific references to specific artifacts are presented, when necessary, in the artifact tables provided with individual site descriptions.

As a supplement to the analyses performed on material obtained during the present fieldwork, a concerted effort was made to relocate earlier collections for sites in the area. This particularly relates to material reported by McIntire (1958:Pl. 13), most of which is now

housed at LSU, and from which he identified site age and distributary association. This material had not been reassessed in about 30 years, and it was hoped that its reanalysis would provide a more accurate picture of the age, cultural affiliation, and function of a site's components. Such material was reanalyzed according to the techniques discussed above.

Interpretation

Upon completion of the various analyses, the data generated by the present research was integrated with existing archeological and geomorphological data from the study area in order to develop a general characterization and assessment of the cultural resources. One aspect of this involved producing estimates of the site density and distribution within the study area by sampling stratum and by depositional environment. These estimates were based on the results of the sample survey, and were compared with projections offered by Gibson (1978b:229) on the basis of his work in the area.

A second aspect of this portion of the research involved a detailed reconstruction of the paleogeography and geomorphic history of the study area. All of the available geomorphological data and archeological site data were integrated in order to develop a series of paleogeographical reconstructions of the study area through time. Information on site function or settlement type was incorporated when available in order to examine changes in settlement patterns through time. Results are presented in Chapter 8.

A third topic examined concerned the types and quantities of cultural resources which may be expected within the study area. The density estimates derived from the sample survey were used to extrapolate numbers of sites which should exist within the area. Where the data permitted, separate site densities and quantities were projected by culture period and/or site type.

A final topic addressed in this portion of the study concerned the current condition of the cultural resource base of the area, and projections of its condition 50 years in the future if the proposed flood protection measures are not carried out. This involved an assessment of all of the cultural resources within the study area, and, particularly, a consideration of the findings of the site revisits within the barrier alternatives and the Terrebonne marsh sample survey area. Available information on rates of subsidence, land loss, and site destruction through human activities were then used to make projections of the future condition of the resource base.

CHAPTER 5

SITE ASSESSMENTS AND SURVEY RESULTS RELATIVE TO THE U.S. 90 AND GIWW BARRIER ALTERNATIVES

Introduction

This chapter initially will present a review of those sites revisited and assessed in response to the U.S. 90 and GIWW Barrier Alternatives. This will be followed by a discussion of the reconnaissance-level surveys conducted in the areas of the proposed ring levees at Boeuf and Amelia, the industry relocation zones on Avoca Island, and the levee along the south bank of the GIWW. Sites recorded during each of the reconnaissance surveys will be discussed, as well.

For ease in presentation, all sites revisited will be discussed in a set order, arranged first by parish and then by site number, regardless to which proposed alternative they may actually be related. (For information on which sites are related to which specific alternative, see Plate 3.)

Assessments of Known Site Locations

Twenty sites either were revisited, or revisit attempts were made, for this aspect of the project. Each site is reviewed below. Site locations are shown on Plate 3.

THIBODAUX (16 AS 35)

Location and Previous Description

This once was a rather extensive site, first recorded by Weinstein and Eileen Burden in December 1976. It later was tested by CEI personnel as part of their survey of the proposed relocation route of U.S. Hwy 90 (Weinstein et al. 1978:33-72). At that time, the site consisted of a portion of a stratified *Rangia cuneata* shell midden, several wave-washed beach deposits, and scattered historic material, on the east bank of Bayou Boeuf, along that segment of the bayou known as La Coup. Bayou Boeuf today occupies the trunk channel of the ancient Teche-Mississippi course, and the Thibodaux site is located atop more recent sediment within the old Mississippi channel (Smith et al. 1986:Pl. 36).

The site extended from a point approximately 0.9 mi north of the Southern Pacific Railroad to about 0.5 mi south of the railroad. Much of it had been badly disturbed by bankline erosion, bulkheads, and other construction activity. Previously, a large portion of the midden had been removed for road construction in the area.

Two 1-by-1-m-square test pits were excavated by CEI in the northern portion of the site, one in the proposed highway ROW and the other approximately 460 ft to the north. Only the northern test pit, labeled Test Pit 1, produced in situ midden. There, four stratified *Rangia* lenses were encountered, extending from approximately 1 ft below the surface to a little over

3.4 ft below the surface. Each lens was separated from the next by culturally sterile flood deposits of silt and clay. Artifacts and radiocarbon assays on the various shell strata indicated that the initial occupation occurred about A.D. 900. This was followed by a transitional Coles Creek/Plaquemine occupation dating, at the earliest, to A.D. 1000, and which included sherds of Plaquemine Brushed, Mazique Incised, *var. Manchac*, several plain grog-tempered sherds, and one of Mississippi Plain.

The upper two shell strata were basically contemporary, dating to the A.D. 1400s. Artifacts included sherds of Fatherland Incised, *vars. Fatherland* and *Bayou Goula*, Maddox Engraved, *var. Emerald*, Plaquemine Brushed, and several varieties of Addis Plain (Weinstein et al. 1978:39-44). In a recent paper, Weinstein (1987a) argued that the artifacts from this occupation may be indicative of the prehistoric Chitimacha.

In addition to the two test pits, CEI placed down a line of auger borings within the highway ROW parallel to the Bayou Boeuf bankline. None encountered cultural material, and it was assumed that the majority of the shell midden already had been removed (Weinstein et al. 1978:59).

Several surface collections also were obtained from various portions of the site. Most of the prehistoric ceramics mirrored those from Test Pit 1, with the addition of several sherds of Coles Creek Incised, *var. Hardy*, and Owens Punctated, *var. unspecified* (now recognized as *var. McIlhenny*), and one sherd each of Fatherland Incised, *var. Stanton*, Sanson Incised, *var. Sanson*, and Leland Incised, *var. unspecified* (Weinstein et al. 1978:60-65). As to be expected in an area originally settled in the late 1700s and early 1800s, a good deal of historic material was found within the site area along the bankline. While most of this material undoubtedly represents late-nineteenth- and early-twentieth-century refuse, some could be associated with the early settlements. Included in this latter group were sherds of a creamware basin or bowl, a creamware feather-edge plate, and a blue shell-edge pearlware plate (Weinstein et al. 1978:67-72). As noted previously, two land claims originally were recognized along the east bank of Bayou Boeuf, those of Jean Baptiste Henry for Sec. 38 and Gregoire Aucoin for Sec. 37. The latter includes the northern portion of the Thibodaux site, while the former covers most of the site between the railroad and the present location of U.S. Hwy 90. Also, as noted, rejected land claims included those by Frainçois Aucoin and Jean Baptiste Jaunier for land adjacent to Gregoire Aucoin and Jean Baptiste Henry. Thus, the early artifacts recovered may have been deposited by one or several of these early claimants.

Weinstein et al. (1978:216) recommended that the Thibodaux site be declared eligible for the National Register, and submitted an eligibility determination form as an appendix to their report. Subsequently, the site was declared eligible and listed as such in the *Federal Register*. In 1980, a bulkhead was to be built along Bayou Boeuf in the area of CEI's Test Pit 1. Again, CEI personnel were called upon to investigate that portion of the site prior to construction. After a program of augering and bankline examination, it was determined that the stratified midden at the Test Pit 1 location covered an area of only about 130 ft by 50 ft, and that the bulkhead actually would prevent further erosion of the midden (Weinstein 1980).

Present Description

The Thibodaux site today is in much the same condition as 10 years ago, although several of the houses and businesses adjacent to Bayou Boeuf within the site area have been moved or abandoned. In addition, the road leading up the bayou to the location of CEI's 1977 testing program has been closed by the placement of a large dirt pile across the road.

For the purposes of the present study, only that portion of the site south of the proposed crossing of the new U.S. Hwy 90 bridge was examined in detail. In 1977, this

section of the site contained three apparently intact shell lenses eroding out of the Bayou Boeuf bankline (Weinstein et al. 1978:Fig. 5), and which were given location designations "J," "L," and "O." Each of these locations was to be reexamined under this existing study.

Figures 5-1 and 5-2 show that portion of the Thibodaux site which today includes the area of Locations J and L. A series of three auger borings and several 6-ft-long probes were placed into the bank in these locations. Along with bankline inspection, the auger borings helped identify two probable shell lenses, both comparable to those noted in 1977 (see Figure 5-1). Table 5-1 provides the data relative to auger borings A and C, each of which penetrated a shell lens. As can be seen, the lenses are only 0.5 ft or less in thickness, and represent only small midden remnants along the bank.

The portion of the site identified as Location O is illustrated in Figure 5-3. Again, three auger borings were placed into the bank at approximately 60 ft intervals. None encountered midden or cultural material. Data on Auger Boring E, which was typical of the series, are presented in Table 5-1. To compliment the borings, the bankline at Location O also was visually inspected. Only recently deposited shell, used as fill in certain areas or washed off the shoulders of the paved road, could be found. No artifacts were noted, either. Apparently, the midden lens noted in 1977 no longer exists.

Following the examination of Locations J, L, and O, an additional inspection of the bank south to the present U.S. Hwy 90 bridge was conducted. Only a few pockets of wave-washed shell were noted, as in 1977, and none produced any artifacts.

Comments and Recommendations

This once extensive shell midden has been reduced to nothing more than a few isolated pockets of in situ material. Only two of these pockets, in Locations J and L, are present south of the proposed new Hwy 90 bridge. Both are thin and of very limited areal extent. The major portion of intact midden occurs north of the proposed bridge crossing and will not be affected by any of the ring levees to be built south of that point.

Although the shell midden along Bayou Boeuf has been badly degraded, the higher bank east of the present road, on which several houses and structures now stand, still retains a good degree of integrity. It is on this higher elevation, adjacent to the bankline shell midden, that Indian house sites and living areas would most likely have been located. Similarly, this same area is undoubtedly the locus of the early historic house sites, as it is for the houses there today. When one considers the additional presence of a small Union fort, labeled Fort Weitzel on Civil War maps of the area (Casey 1983:243), and which was designated to protect the railroad crossing over Bayou Boeuf, then the upper bankline at the site receives added importance. Clearly, therefore, there is still much to be learned from the Thibodaux site, and its National Register status should be retained.

BAYOU CHENE (16 SMY 20)

Location and Previous Descriptions

This large and impressive site is located on the subsided natural levee of a small, unnamed bayou that Smith et al. (1986:Pl. 36) identified as a Teche distributary. In fact, the site is situated near the junction of two Teche distributary channels and it is the combined natural levees of the two channels which may have provided enough dry land to support occupation at the locale. Today the site is situated in backswamp, approximately 0.6 mi west of the junction of bayous Chene and Black, and 1,000 ft north of Bayou Chene.

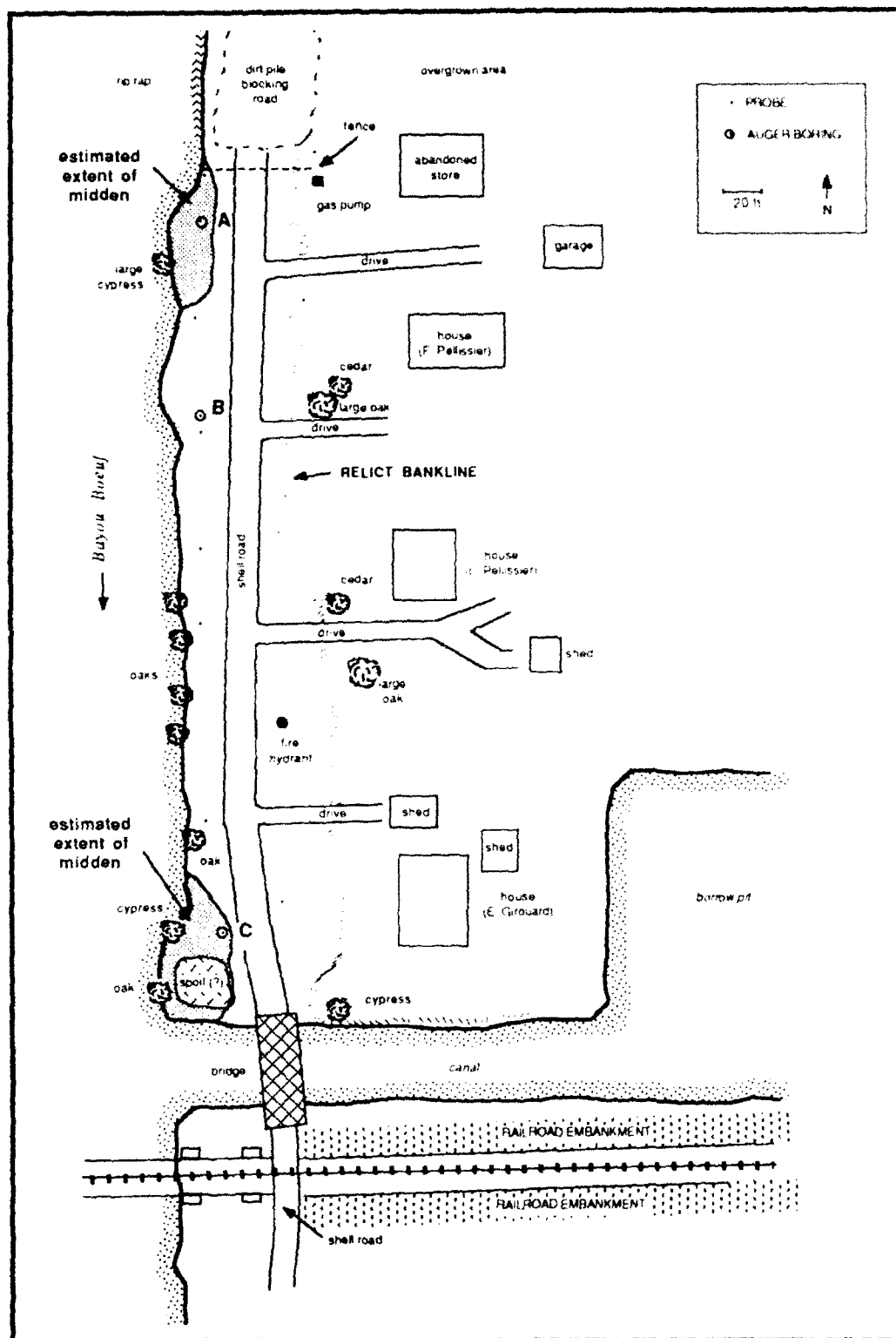


Figure 5-1. Sketch map of that portion of the Thibodaux site (16 AS 35) originally including Locations J and L.



Figure 5-2. View north along the east bank of Bayou Boeuf at Locations J and L of the Thibodaux site (16 AS 35). Photograph taken from the bridge shown in Figure 5-1. Date: 11/6/86.

Table 5-1. Auger Boring Data from Locations J, L, and O at the Thibodaux Site (16 AS 35).

AUGER BORING	DEPTH BELOW SURFACE	SOIL TYPE	COLOR	COMMENTS
A	0.0 - 0.8 ft	Silt with <i>Rangia</i>	10YR 3/3	Humus with <i>Rangia</i> from adjacent shell road
	0.8 - 3.5 ft	Clayey silt with some <i>Rangia</i>	10YR 3/3	Fill (?)
	3.5 - 3.6 ft	Clayey silt with <i>Rangia</i>	2.5Y 4/2	<i>Rangia</i> midden
	3.6 - 5.0 ft	Clayey silt with oxidation seams	2.5Y 4/2	Natural levee
C	0.0 - 1.4 ft	Clayey silt	10YR 3/2	Humus and natural levee
	1.4 - 2.2 ft	Clayey silt with oxidation seams	10YR 3/3	Natural levee
	2.2 - 2.7 ft	Silty clay	10YR 4/1	<i>Rangia</i> midden
	2.7 - 5.0 ft	Clay with oxidation seams	5Y 4/1	Natural levee
E	0.0 - 0.5 ft	Clayey silt	10YR 3/2	Disturbed road fill
	0.5 - 3.5 ft	Clayey silt with oxidation seams	2.5Y 4/2	Natural levee
	3.5 - 5.0 ft	Clayey silt with oxidation seams	2.5Y 4/0	Natural levee

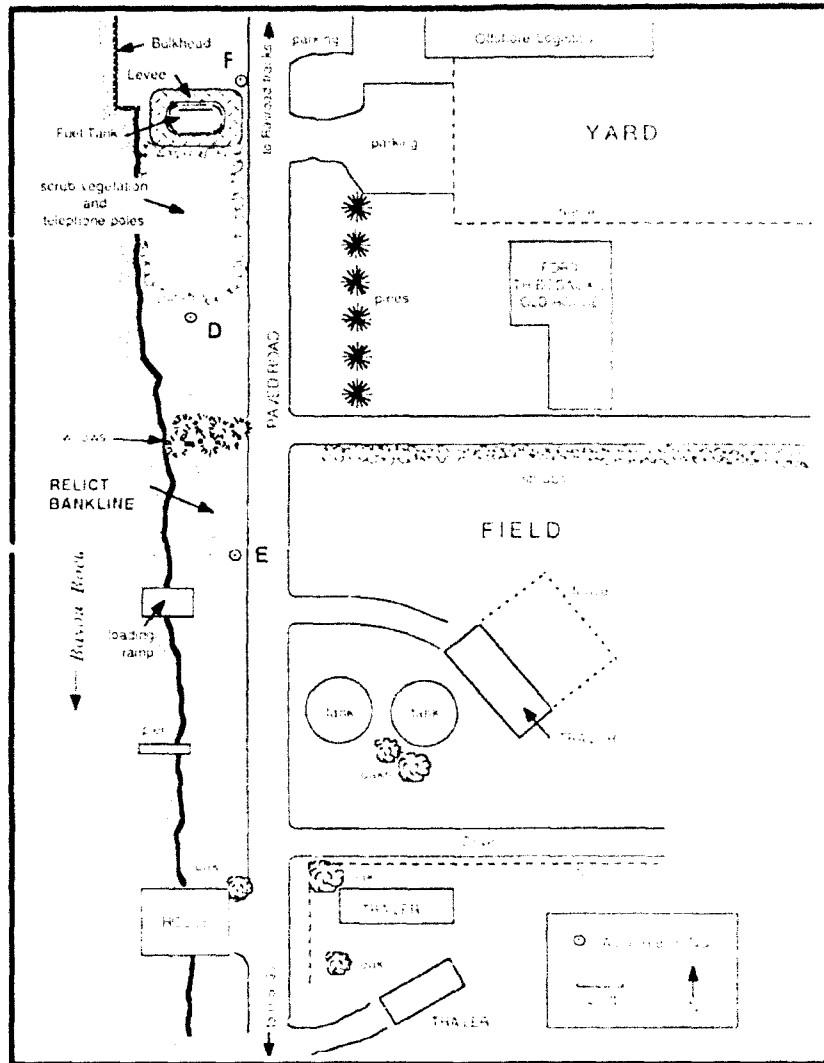


Figure 5-3. Sketch map of the Thibodaux site (16 AS 35) including the area originally identified as Location O.

The Bayou Chene site was first recorded by William G. McIntire in August 1952, based on information supplied by Clyde Peterson (LDA site form). At that time the site was described as an earth mound, and that is how it is shown on McIntire's (1958:Pl. 2) general site distribution map. A small collection (Catalogue No. 52-155) apparently also was obtained from Peterson, but it could not be relocated at the LSU Museum of Geoscience where it once was stored.

The site was revisited by Kathleen M. Byrd during a 1972 survey of bayous Boeuf, Black, and Chene (Byrd 1972:3-4), and described as a "shell-earth midden." Another small collection was obtained, and reportedly included three sherds of Pontchartrain Check Stamped which allowed Byrd (1972:4) to suggest at least a Coles Creek occupation. This collection was located at LSU, and indeed does consist of the three *Pontchartrain* sherds along with two of

Baytown Plain, *var. unspecified*. Neuman (1977:21) simply reported an earth mound at the site.

The locale again was visited during USL's 1977-'78 survey of the Lower Atchafalaya region, and described briefly in the report of that survey (Gibson 1978b:122-124). Gibson, however, apparently unaware of McIntire's original site form, attributed the discovery of the site to Byrd, and named it after her. The present study has chosen to retain the site's 1952 name.

Gibson (1978b:122) described the main body of the site as an intact *Rangia* and earth midden, measuring approximately 70 m (230 ft) east-west by 30 m (98 ft) north-south, and about 1.7 m (5.6 ft) above the surrounding swamp. Three additional "knolls" of midden were recorded west of the main midden accumulation, each less than 20 m (66 ft) in diameter. One large pothunting hole was noted atop the prominent midden.

Another small collection of material was picked up during USL's visit (Gibson 1978b:Table 12). It consisted of one rim and 10 body sherds of "plain" pottery (almost certainly Baytown Plain), three sherds of Pontchartrain Check Stamped, *var. Pontchartrain*, and one unidentified bone fragment. The *Pontchartrain* sherds allowed Gibson (1978b:124) to agree with Byrd's suggestion that Coles Creek peoples once utilized the site.

Gibson (1978b:276) recommended that the site be considered significant in terms of several National Register criteria, and that it was eligible for inclusion in the Register. It is apparent that the Corps concurred with Gibson's recommendations, as a levee was built to the east and north of the site to protect it from potential burial by spoil dredged from Bayou Chene. The levee construction uncovered two additional sites (16 SMY 63 and 64) near the Bayou Chene site, both of which were entirely subsided. One of these (16 SMY 63) was revisited and tested during the present project and will be reviewed below.

Present Description

The Bayou Chene site today is much the same as described by Gibson (1978b). It consists of one prominent midden accumulation composed of both *Rangia* and earth, and three lesser middens situated to the west (Figure 5-4). All four middens are located along the south bank of the relict Teche distributary channel now marked by the small, unnamed bayou. The largest midden, labeled Midden A, measures approximately 300 ft northeast-southwest by 170 ft northwest-southeast. It stands approximately 6 ft above the surrounding swamp and is covered by a lush blanket of ferns (Figure 5-5). Several large oaks dot its surface, while at least four pothunting holes also are visible. The largest of these holes measures about 25 or 30 ft across, and undoubtedly is the one referred to by Gibson.

The three western middens are nothing more than slight rises in the swamp, all less than a foot in elevation. Of these, only Midden B contained exposed *Rangia* shell on its surface, but this apparently had been kicked out of an animal burrow.

A series of auger borings and probes was used to assess the subsurface extent of the various middens. One boring was placed down along the northwestern edge of Midden A at the N120E00 point (see Figure 5-4). It penetrated through 1.8 ft of humus and backswamp clays before encountering *Rangia* shell in a very dark grayish brown (2.6Y 3/2) clay matrix. This midden deposit extended from 1.8 to 6.5 ft below the surface. Beneath it (between -6.5 and -7.2 ft) was a lens of dark olive gray (5Y 3/2) clay believed to be either natural levee or old channel fill deposits.

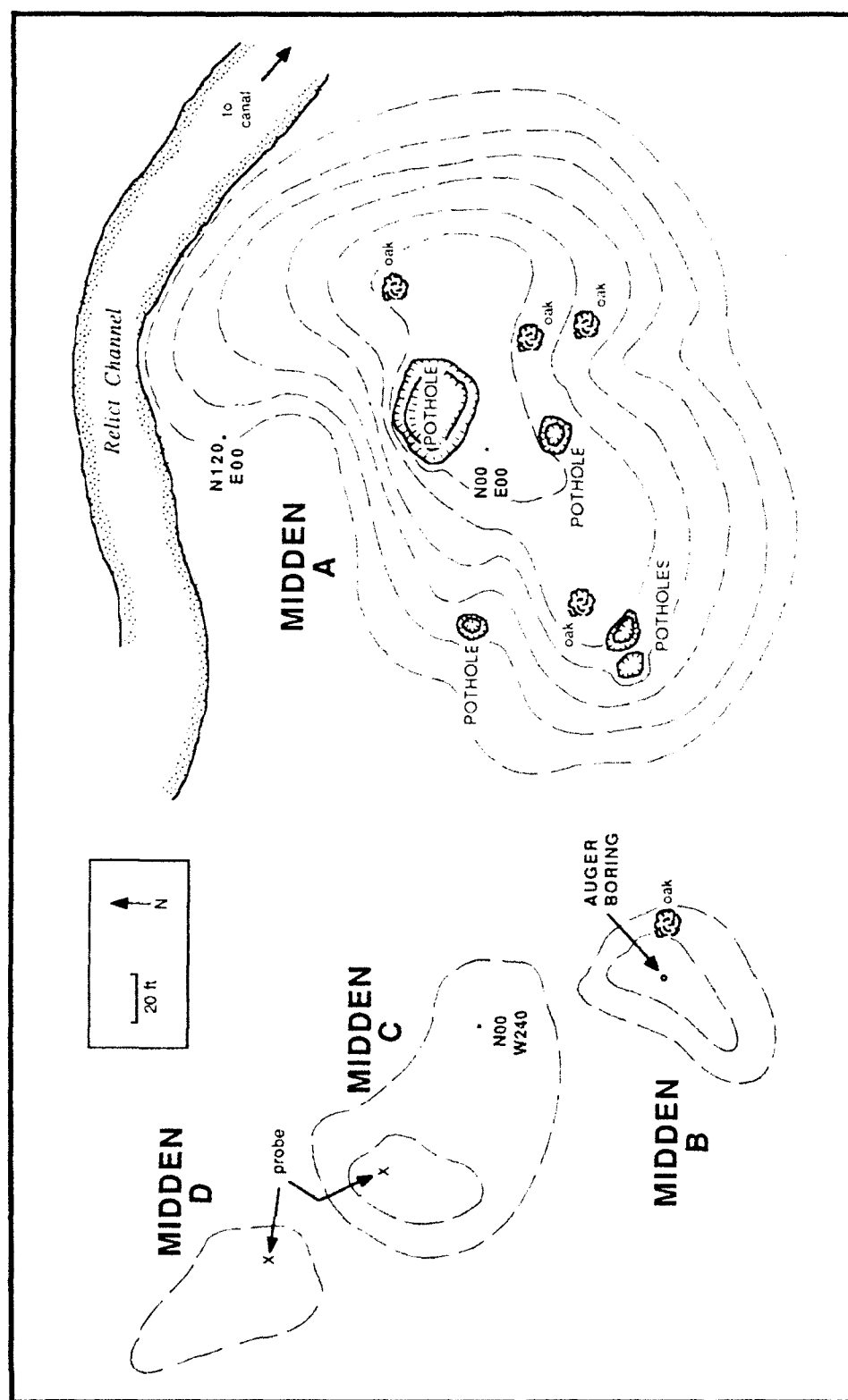


Figure 5-4. Sketch map of the Boeuf-Chene site (16 SMY 20), showing probe and auger boring locations related to the four mounds present at the locale. (Dashed contour lines are estimates only, used to give a general impression of elevation.)



Figure 5-5. Midden A at the Bayou Chene site (16 SMY 20), showing lush blanket of ferns. View to the southeast. Date: 10/30/86.

A dark grayish brown (2.5Y4/2) clayey silt containing oxidation stains was encountered between -7.2 and -8.0 ft, at which point the coring was terminated. This latter deposit undoubtedly is the natural levee on which the site developed.

A second auger boring was placed through the estimated center of Midden B (see Figure 5-4). It penetrated 0.7 ft of backswamp deposits before hitting the midden. This latter deposit consisted of *Rangia* shell in a very dark gray (10YR 3/1) clay matrix, and extended to a depth of 7.1 ft. Between -7.1 ft and the end of the boring at -8.0 ft, the auger picked up natural levee deposits identical to those recorded beneath Midden A. Based on the two borings, therefore, it is estimated that Midden A reaches a thickness of about 12.5 ft (6 ft above the present swamp surface and 6.5 ft beneath it), while Midden B is approximately 6.4 ft thick.

A probe placed down in the northwest portion of Midden C encountered shell between -1.8 and -5.0 ft. Another near the south-central portion of Midden D hit shell between -3.0 and -5.0 ft. This suggests that these latter middens are somewhat thinner than Middens A and B, and have not subsided as much. Interestingly, probing through the low area between Middens C and D encountered shell at about -4 ft, suggesting that a thin saddle of midden probably connects the two areas. It may also be possible that additional buried middens occur in the vicinity. Without an extensive and detailed program of augering, however, these could not be found.

As with previous investigations, another relatively small collection of material was obtained during the present study. Because of the heavily overgrown nature of Midden A, and the fact that the other three middens are buried, it was not practical to collect material in a

systematic fashion. Rather, an opportunistic collection was made from around the edges of the various pothunting holes, particularly the large one. No significant ceramic differences could be seen between the holes, so the collection is combined in Table 5-2. Selected sherds are illustrated in Figure 5-6. Clearly, the Coles Creek affiliation of the site is substantiated. Of interest is the sherd of *Rhinehart* (Figure 5-6, B) which is broken just below the rim, but retains enough of its form to identify what Wiseman et al. (1979: 7-10 to 7-12) have defined as the Machias rim mode, a probable early to middle Coles Creek period marker. On the other hand, the *unspecified* sherd of Mazique Incised (Figure 5-6, D) may be approaching *Manchac* in quality, suggesting a possible middle to late Coles Creek occupation. Thus, the full range of Coles Creek occupation may be hypothesized. Additionally, the fact that all of the Coles Creek ceramics came off the top of Midden A, may indicate that earlier and more deeply buried occupations are present within the various middens at the site.

Comments and Recommendations

There is little doubt that the Bayou Chene site is eligible for inclusion in the National Register, a fact the Corps previously has recognized through the construction of the nearby protection levee. All four middens are intact and in excellent condition. Because most of the midden material is buried below present swamp deposits, well-preserved organic remains are probably present, allowing for detailed faunal, floral, and palynological studies in the future. Similarly, although present data suggest an occupation during the Coles Creek period (ca. A.D. 700 to 1000 or 1100), the potential exists for earlier buried components.

BOEUF-CHENE JUNCTION (16 SMY 44)

Location and Previous Description

This site is located on the natural levee of the trunk channel of the Teche Delta immediately south of the present junction of bayous Boeuf and Chene. It lies near the eastern end of a land mass which has been known, during the nineteenth and twentieth centuries, as Avoca Island. The site was initially recorded in 1972 by Kathleen M. Byrd during a survey of

Table 5-2. Ceramic Counts and Percentages for the Bayou Chene Site (16 SMY 20), Pothunting Hole Backdirt Piles.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain var. <i>unspecified</i>	4	25	29	85.3	--
Evansville Punctated var. <i>Rhinehart</i>	0	1	1	2.9	20.0
var. <i>unspecified</i>	0	1	1	2.9	20.0
Mazique Incised var. <i>unspecified</i>	1	0	1	2.9	20.0
Pontchartrain Check Stamped var. <i>Pontchartrain</i>	1	1	2	5.9	40.0
Total	6	28	34	99.9	100.0

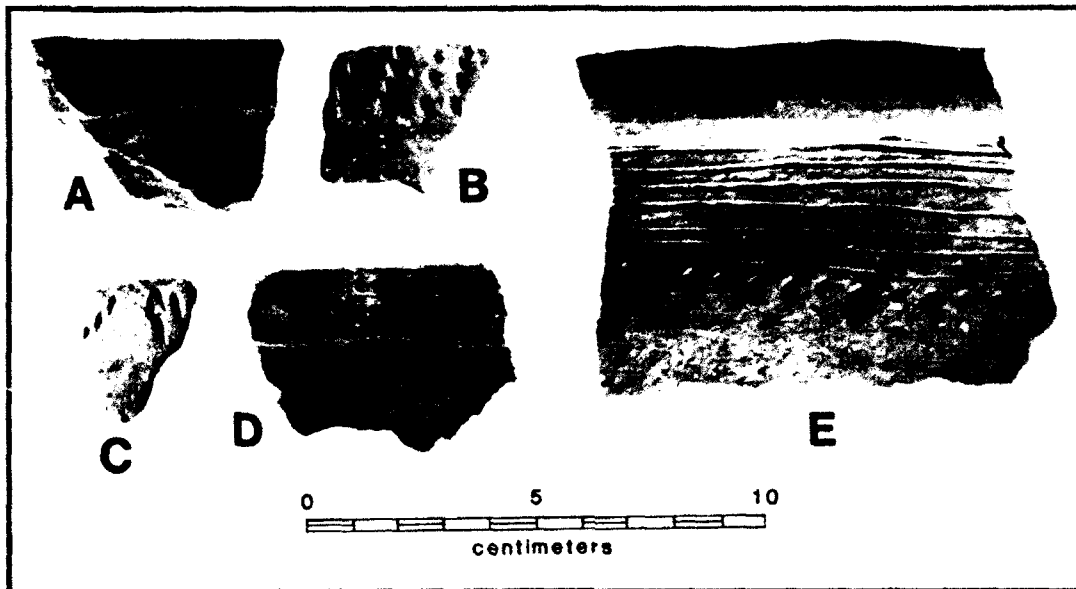


Figure 5-6. Aboriginal ceramics from Bayou Chene (16 SMY 20) and Oak Chenier (16 SMY 49). A) Pontchartrain Check Stamped, var. *Pontchartrain* (16 SMY 20); B) Evansville Punctated, var. *Rhinehart* (on Machias rim, 16 SMY 20); C) Evansville Punctated, var. *unspecified* (16 SMY 20); D) Mazique Incised, var. *unspecified* (16 SMY 20); E) Coles Creek Incised, var. *Hardy* (16 SMY 49). (All from CEI collections.)

bayous Boeuf, Black, and Chene. She described it as a shell midden which "extends about 150 ft along the south bank of Bayou Boeuf and about 100 ft along the right bank of Bayou Chene. There is a break in the midden and then it begins again and extends another 200 ft along the bank" (Byrd 1972:2). The site form filled out at that time notes that the total length of the site was 1/4 mi, and that the midden was buried 1.5 to 2 ft below the surface and was 6 to 8 in thick. Byrd was unable to determine the cultural affiliation of the site as she apparently recovered no artifacts during her visit.

Three years later Weinstein and Burden visited the site during CEI's survey of the Gulf Intracoastal Waterway (Gagliano et al. 1975:120). Their site form essentially duplicates the information recorded by Byrd, but their plotting of the site location on project aerial photographs suggests that they included only the western midden area within 16 SMY 44. The eastern midden area was given a new site number, 16 SMY 129. Like Byrd, Weinstein and Burden were unable to locate prehistoric artifacts at 16 SMY 44.

The site was again visited during USL's 1977-'78 survey of the Lower Atchafalaya region and described by Gibson (1978b:124) in the final report of that project. He recorded that it extended 350 m along the banks of bayous Boeuf and Chene, but noted that intact midden occurred along roughly 100 m of bankline at the junction of the two streams. The midden was buried 15 cm below the surface and varied from 5 cm to 30 cm in thickness. Its average width was stated to be 4 m, but near the center of the intact area a ridge of midden 25 m wide extended 75 m back from the bank. Six "plain" sherds recovered by the USL survey crew are the only prehistoric artifacts recorded from the site. Gibson (1978b:276, 280) concluded that the site was significant, and recommended that it be avoided by construction activities.

Present Description

The Boeuf-Chene Junction site presently consists of a series of small, buried *Rangia* shell lenses, two surface scatters of shell, and an extensive scatter of historic artifacts (Figure 5-7). The site extends for just over 500 ft along the bankline of Bayou Boeuf and at least 100 ft back from the bank. Shell lenses 10 to 15 ft long were observed eroding from the bank at two points near the eastern and western ends of the site. The shell lens located at the eastern end of the site was buried 10 to 15 in below the surface and was 5 in thick. The shell lens at the western end of the site was roughly the same thickness, but was situated 40 in below the surface. Approximately 120 ft east of the latter, a shell-filled pit was observed eroding from the bank. The feature began about 10 in below the surface and extended to a maximum depth of -45 in. Gibson (1978b:Fig. 23) illustrated a similar feature eroding at the time of his fieldwork.

In an effort to better define the extent of the shell lenses observed in the bankline, and to obtain more data on the stratigraphy at the site, a series of five auger borings was placed at 90 ft intervals down the long axis of the site. All of the borings encountered a similar stratigraphic sequence consisting of 12 to 14 in of pale brown (10YR 6/3) sandy silt overlying 14 to 24 in of mottled very pale brown (10YR 7/4) silt. Shell was present on the surface in Boring No. 1, but was not encountered below the surface in any of the holes. The surface scatter of shell near Boring No. 1 and a second scatter northeast of Boring No. 5 both appear to have been displaced either by erosion or by historic-period activities. The absence of shell in the subsurface suggests that the shell lenses observed in the bankline are small and interbedded with the natural levee deposits.

Despite careful searching, prehistoric artifacts could not be located either on the surface of the site or eroding from the bankline. In contrast, historic artifacts, including bricks, ceramics, glass, and metal, were common over an area roughly 200 ft long by 75 ft wide at the eastern end of the site. This fact had not been reported previously and was therefore unexpected. A sample of this material was collected and is presented in Table 5-3. The dateable artifacts include annular, sponged, and shell-edged whitewares. These were most common from ca. 1830 to 1860, but continued to be used later in the century. Opaque glass was popular during the late nineteenth and early twentieth centuries.

The artifacts were apparently associated with Aleda Plantation. A Civil War-era map of this region shows a number of structures in the area of 16 SMY 44 and indicates that the plantation was at that time owned by a John Burris (Confederate States of America 1864; see Figure 3-3). In 1892 the property was purchased by Captain John N. Pharr and became part of his extensive holdings on Avoca Island. After the collapse of J. N. Pharr and Sons, Ltd., in 1928, the plantation became the property of Avoca, Inc.

According to Mr. George Picou, property manager for Avoca, Inc., and longtime resident of Avoca Island, the land was then leased to two brothers named Fangue who ran a syrup mill on the site (George Picou, personal communication 1986). This was apparently the last operating sugar mill on Avoca Island. Structures continued to stand at the site into the 1950s.

Comments and Recommendations

The current research has provided little additional information on the prehistoric occupation at 16 SMY 44. Small lenses of shell midden are present within the relict Teche-Mississippi natural levee, but their age and maximum extent have not been established. However, the research has identified a middle-nineteenth- through early-twentieth-century historic occupation associated with Aleda Plantation. While intact historic features have not

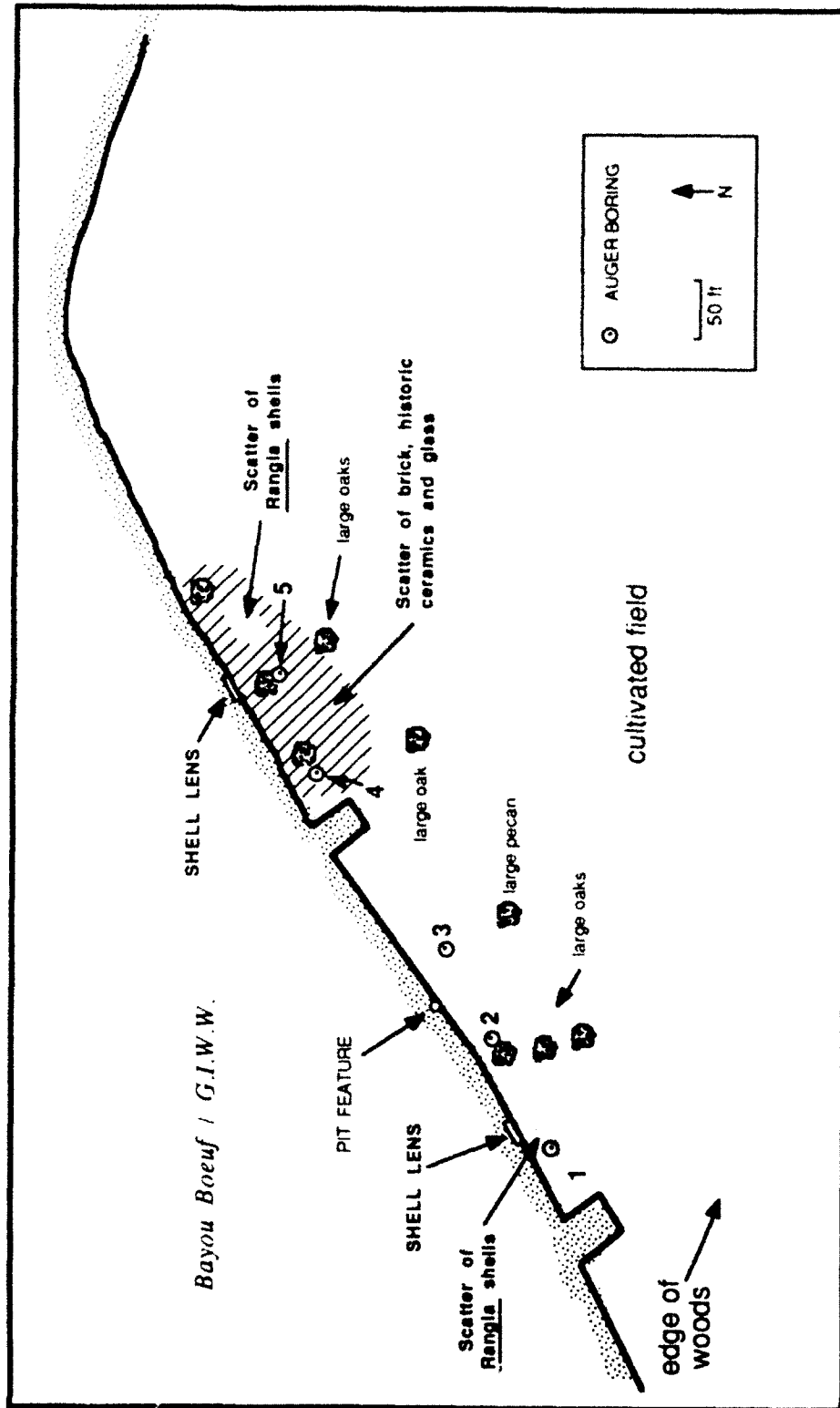


Figure 5-7. Sketch map of the Boeuf-Chene Junction site (16 SMY 44), showing auger boring locations, exposed shell lenses, and extent of historic artifacts.

Table 5-3. Historic Artifacts from the Surface Collection at Site 16 SMY 44.

ARTIFACT TYPE	CATEGORY	DESCRIPTION	NUMBER
Ceramic	Whiteware	Annular	2
		Sponged	1
		Blue shell edge	3
		Edge painted	1
		Undecorated	11
		Polychrome overglaze transfer printed	1
	Semi-porcelain	Undecorated	1
	Stoneware	White slip glazed	1
Glass	Opaque	White	2
	Opaque	Green	1

been located, there is certainly the potential for their presence at the site. Based on the occurrence of in situ prehistoric deposits and the potential for historic remains, the site is considered to be potentially eligible for nomination to the National Register of Historic Places.

OAK CHENIER (16 SMY 49)

Location and Previous Description

Oak Chenier originally was recorded during USL's survey of the Lower Atchafalaya region (LDA site form), and discussed in Gibson's (1978b:127-132) final report on that survey. It was described as a large, nearly circular, mostly intact *Rangia*-earth midden, measuring about 86 by 87 m above the surface and, based on coring, about 124 m east-west by 173 m north-south below the surface. A check of the original site form, however, shows that the above-ground dimensions should have been presented in feet, not meters, indicating a much smaller site than reported. Similarly, the buried dimensions are questionable. Although not noted on the original site form, it seems reasonable to assume that they, too, should be in feet. Gibson estimated the highest portion of the site at about 2.0 m (6.6 ft) above msl, while another 2.5 m (8.2 ft) lay subsided below the surrounding water and marsh. The site was once located along the north bank of Bayou Chene, about 1,200 ft north of the junction of bayous Chene and Penchant, but recent dredging and subsequent marsh deterioration gives the site the appearance of an island along the Bayou Chene navigation channel. Smith et al. (1986:Pl. 41) identify both bayous Chene and Penchant as Teche tributary channels.

The USL survey crew collected 217 aboriginal sherds from the surface of Oak Chenier (Gibson 1978b:Table 15), of which 201 were "plain." These were undoubtedly Baytown Plain. Decorated sherds included three of *Pontchartrain*, three of *French Fork* (one of which was on the interior of a shallow bowl), one possible Avoyelles Punctated, var. *Avoyelles*, one Coles Creek Incised, var. *Hunt*, three Churupa Punctated, var. *Churupa*, two Marksville Stamped, var. *Manny*, and three unidentified incised. Based on this, Gibson (1978b:129) proposed Troyville and Coles Creek components. While a Coles Creek occupation is probably present, the Troyville component does not appear as strong as Gibson would believe. The

sherds of *Churupa* and *Manny* are markers for the late Marksville period elsewhere throughout the Lower Mississippi Valley, and there is little reason to suggest otherwise here. Only the sherd of *Hunt* and possibly some of the *French Fork* and *Pontchartrain* sherds could be related to a Baytown period occupation, but, as to be seen below under the discussion of the Byrd Extension site (16 SMY 63), Gibson's *Hunt* could really be *Stoner*, while *French Fork* and *Pontchartrain* also are common during Coles Creek times. Thus, the earliest occupation at Oak Chenier would seem to be several hundred years prior to Gibson's estimate, while the Coles Creek component is probably stronger than would appear at first glance.

Additional evidence in support of a late Marksville component comes from a 1-by-1-m test pit excavated on the highest part of the site by the USL crew (Gibson 1978b:129-132, Table 16, Fig. 28). Aside from a few sherds of *Pontchartrain* found within the upper 35 cm (1.1 ft) of the unit, all decorated sherds are late Marksville diagnostics. These include three sherds of Marksville Incised, var. *Yokena*, one of Marksville Stamped, var. *Manny*, and one interesting red-filmed version of *Yokena* which Gibson (1978b:Table 16) labels "Marksville Incised, var. *Yokena*/Larto Red, var. *Larto*." Perhaps most important was the discovery of a possibly flexed human burial within the test unit at depths between -68 and -95 cm (-2.2 and -3.1 ft). This is clearly within the late Marksville component.

Additionally, over 1,015 pieces of bone were recovered during the test unit excavation and analyzed by Byrd (1978:221-224). The majority of identified elements came from fishes, such as gar, bowfin, catfish, and porgy, followed in quantity by mammals, particularly the muskrat, but also including raccoon, deer, and mink. Aquatic reptiles, such as snapping turtle, pond turtle, musk turtle, and soft-shell turtle, also were represented, as was one duck (Byrd 1978:Table 39). Based on her analysis, Byrd (1978:224) suggested that "gar, bowfin, and muskrat were probably the most consistently exploited food resources" at Oak Chenier.

In an effort to gather more data on the geological setting of the site, USL placed numerous solid cores around the flanks of the midden. One of these later was analyzed and reported upon by Nault and Truax (1978:205-208, 215). It indicated an upper, stratified earth and shell midden extending from the surface to -3.53 m (-11.6 ft). Beneath that lay a natural levee deposit about 42 cm (1.4 ft) thick. Below that, between -3.95 m (-13.0 ft) and -4.45 m (-14.6 ft), was found another shell and earth midden. All were resting on sandy and silty clay backswamp deposits. As is the case with all of USL's core data, no locational information is available, so the core cannot be related to any particular part of the site. This is unfortunate, since a core placed through the top of the highest portion of the site (estimated at 2.0 m [6.6 ft] above msl) would differ significantly from one placed at the edge of the site (probably at a point not much greater than msl). Thus, the site could extend anywhere from a little over 8 to 14.6 ft below present water level. Based on Gibson's (1978b:129) statement that the midden extends to 2.5 m (8.2 ft) below msl, it would seem likely that the core was, indeed, placed through the highest part of the site, although this still must be considered uncertain.

Lastly, Gibson (1978b:276, 281) suggested that Oak Chenier was eligible for the National Register, and that it could best be protected by placing a rip-rap-covered levee adjacent to the southeastern side of the site to prevent erosion from boat wakes off of the Bayou Chene navigation channel.

Present Description

Figures 5-8 and 5-9 illustrate the Oak Chenier site as it appears today. The present dimensions of the site (see Figure 5-9) differ significantly from those supplied by Gibson, not because the locale has changed much, if any, since 1977-'78, but due, instead, to the rather confused and poorly recorded data with which Gibson had to work. It is apparent by a review of the original site forms that the USL survey crew missed a major portion of the site,

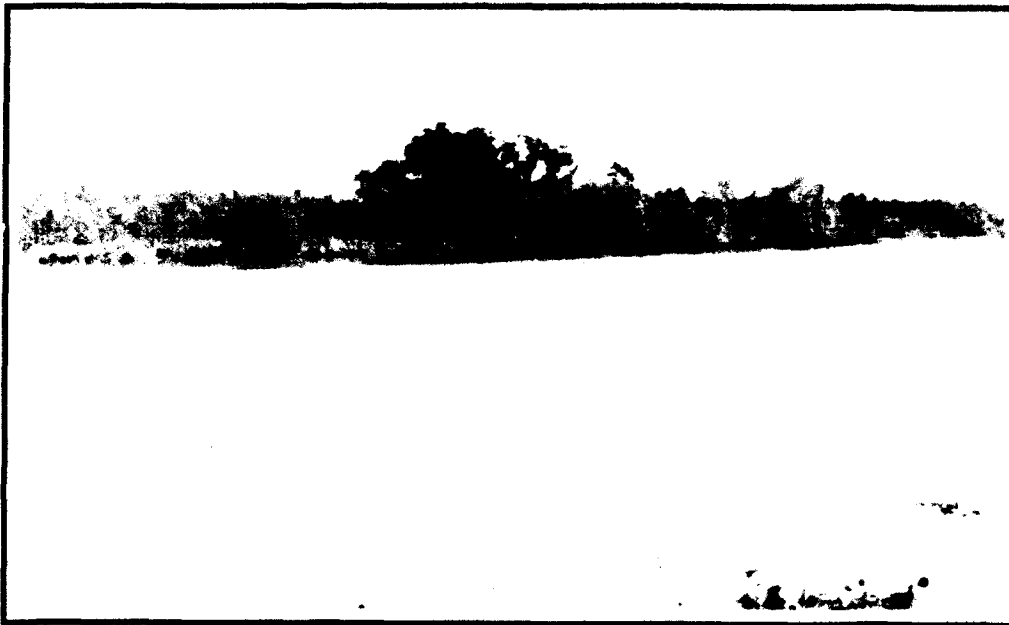


Figure 5-8. Large oak trees marking the location of the Oak Chenier site (16 SMY 49) along the north bank of Bayou Chene. Low line of trees in background represents the location of a recent levee ringing the southern portion of Avoca Island. View to the north. Date: 10/28/86.

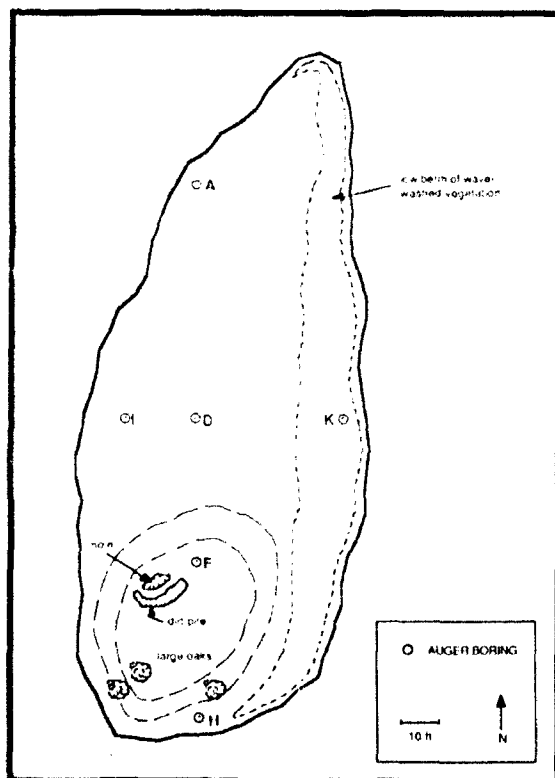


Figure 5-9.

Sketch map of the Oak Chenier site (16 SMY 49), showing auger boring locations. (Dashed contour lines are estimates only, used to give a general impression of elevation.)

recording only the elevated knoll at the south end as the midden. In fact, intact *Rangia*-earth midden covers a greater area, measuring approximately 190 ft north-south, by 75 ft east-west. The raised knoll at the south end measures about 70 by 60 ft, and this matches closely, in both shape and size, the dimensions given by Gibson for the above-ground portion of the site (remembering that Gibson's meters should actually be feet). Gibson's estimate of site height seems somewhat excessive, however, as the knoll today is only about 1.6 ft (0.5 m) high, and not the 2 m (6.6 ft) reported. Presently, three large live oak trees and a moderate-size pothunting hole occur atop the knoll. The remainder of the site supports smaller oaks, palmettos, and additional trees and vines. Evidence of USL's test unit could not be found.

In order to assess the subsurface extent of the site, two lines of auger borings were laid out across the site, oriented to the cardinal directions. It originally was planned to place down borings every 20 ft, but it soon became apparent that this was not feasible as the shell midden was too thick to allow much penetration of the auger bit. In fact, only three borings (I, K, and H) went deeper than 3 ft, the point at which all other borings had to be terminated. Borings I and H went down 4 ft before they could not penetrate through the shell. Probing through the base of each of these holes, however, showed that shell continued to between -5 and -5.5 ft, at which point the probe encountered softer material.

Only Auger Boring K was of sufficient depth to provide data on deeper, buried deposits. Its results are presented in Figures 5-10 and 5-11, which show cross sections based on the bore-hole data. These results suggest that the midden developed adjacent to an old channel remnant, possibly an earlier course of Bayou Chene, and that Gibson's estimate of -8 ft is probably an accurate reflection of midden depth at that point. Elsewhere the midden may attain an equal depth, but the borings could not penetrate the shell enough to determine that possibility.

Only a very small collection of aboriginal ceramics was obtained during the present study. This despite an exhaustive search along each bore line and the margins of the site. Only along the south edge of the knoll, where an exposed, wave-washed shell beach occurs, were artifacts found. The collection consists of 27 sherds of Baytown Plain, *var. unspecified* (23 body sherds and 4 rims) and one rim of Coles Creek Incised, *var. Hardy*

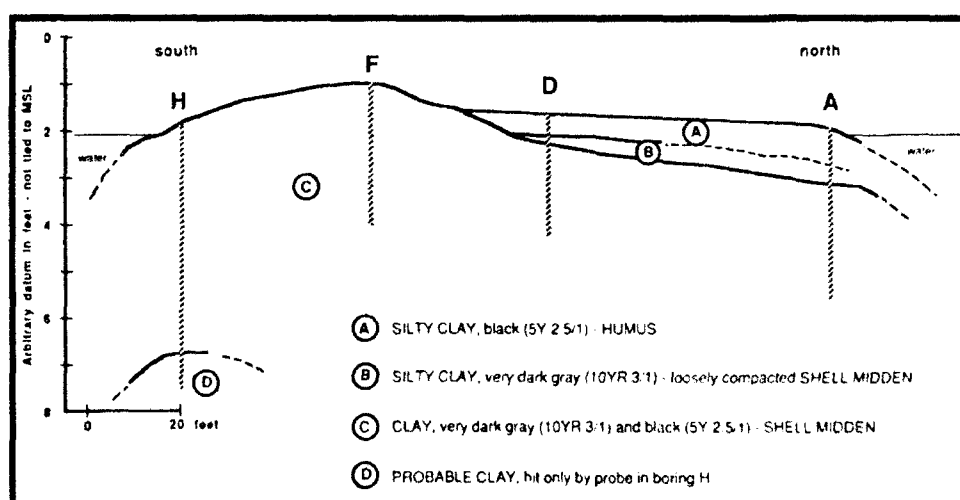


Figure 5-10. North-south cross section, based on auger boring data, of the Oak Chenier site (16 SMY 49).

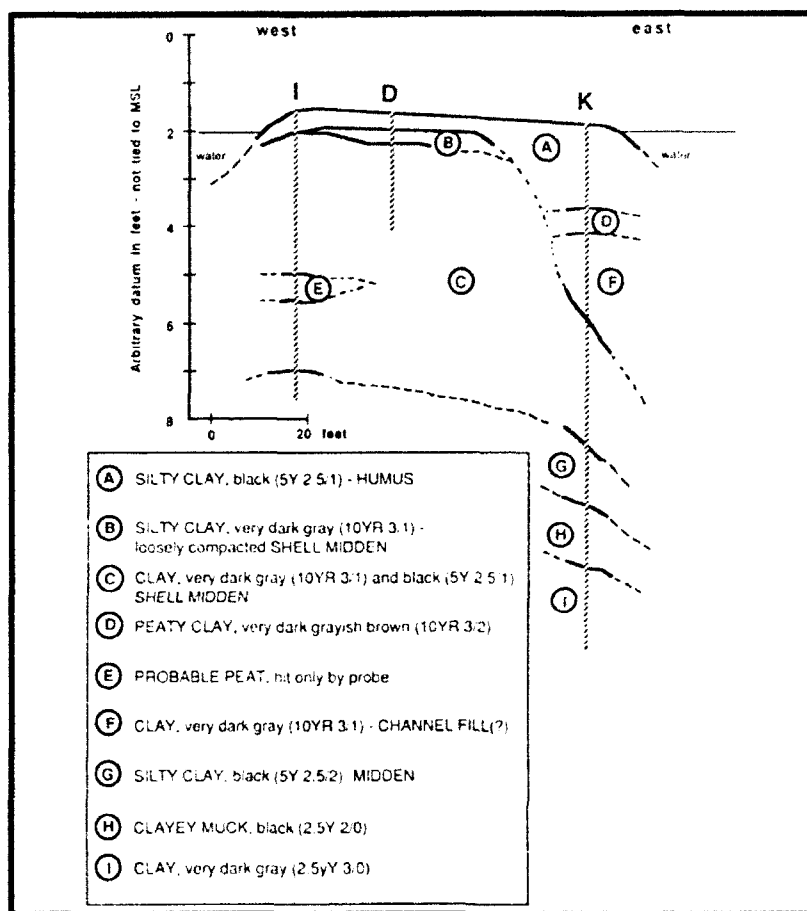


Figure 5-11. East-west cross section through the Oak Chenier site (16 SMY 49), based on auger boring data.

(see Figure 5-6, E). The latter serves to extend the Coles Creek occupation to a time late within the period, but the remainder of the sample does nothing to improve on Gibson's data.

Comments and Recommendations

Undoubtedly, Oak Chenier is eligible for inclusion in the National Register. If anything, the case for significance is enhanced since Gibson's report, as the site covers a good bit more area than only the knoll at its south end. It is intact and provides an opportunity to obtain well-preserved faunal, floral, and artifactual data. Human burials may also be present across the site.

In regard to site occupation, Oak Chenier appears to have developed during late Marksville times, continued sporadically through the Baytown period, and culminated in the Coles Creek period. It undoubtedly served as a shellfish-collecting station, and, considering its size, depth, and the presence of at least one burial, probably maintained a small hamlet or family unit for portions of its existence. Aside from the late Marksville occupation, additional periods of such habitation cannot adequately be answered at present, however.

AVOCA ISLAND DRAINAGE PLANT NO. 1 (16 SMY 52)

Location and Previous Description

This site is located on the east bank of Bayou Shaffer, ca. 1.4 mi south of its junction with Bayou Boeuf. It was initially recorded as the Bayou Shaffer Water Locks by the University of Southwestern Louisiana during their 1977 survey of the Lower Atchafalaya Basin (Gibson 1978b:160-162). At that time Gibson described the site as consisting of "a standing concrete building with a red tile roof, smokestack, and existent water pumping machinery and steam boilers, built sometime after the turn of the 20th century. . . ." He further noted that the structure, though damaged, retained much of its integrity and was potentially eligible for the National Register of Historic Places (Gibson 1978b:277).

The site was again examined by USL during its 1980 survey of the proposed Atchafalaya Basin protection levees (Gibson 1982). At that time additional historical research was undertaken in order to obtain a determination of eligibility for the National Register.

Historical Background

Avoca Island Drainage Plant No. 1 was built between 1910 and 1914 as part of a massive land reclamation project undertaken by John N. Pharr and Sons, Ltd., owners of Avoca Plantation and several other properties on the island (Seiferth 1914). A photograph of the exterior of the drainage plant in 1917 is shown in Figure 5-12, and a view of its interior is shown in Figure 5-13.

The structure that housed the pumps was built of brick and finished with roughened cement (Reed n.d.). It rested on a reinforced concrete foundation placed on pilings. The drainage equipment was described by engineer Warren B. Reed (n.d.) as consisting of a "Babcock and Wilcox boiler, cross-compound condensing Hamilton-Corliss engine, direct connected to a Worthington pump." Wood, coal or oil could be burned in the boiler, but Figure 5-12 suggests that wood may have been the most common fuel. According to engineer Reed, the plant was designed to lower the water level on this portion of the island 16 ft, and indeed the photograph suggests that this may have been accomplished.

In addition to the structure located on Bayou Shaffer, two other drainage plants were built on the island. Drainage Plant No. 2 (16 SMY 183) was located on a canal on the eastern side of the island, and Drainage Plant No. 3 (16 SMY 60) was situated on Rock Bayou at the southern end of the island. The island was also ringed with levees during that time and miles of canals were dredged to drain the interior land. Ultimately about 16,000 ac were reclaimed and utilized for cultivation of sugarcane, corn, and citrus trees, as well as livestock production.

The costs of such a project were undoubtedly staggering, and when sugar prices fell in the early 1920s John N. Pharr and Sons, Ltd., was forced into receivership. Over the next several years they sold off some of their holdings and, as sugar prices rose, were gradually able to pay off their creditors. Then in 1927 the Mississippi Valley was hit by a devastating flood which breeched the levees on Avoca Island and brought an end to the Pharr's reclamation project.

Present Description

Avoca Island Drainage Plant No. 1 is presently in much the same condition as described by Gibson ten years ago. The major exceptions are its large cypress doors and brass plaque, both of which are no longer present. Current photographs of the exterior and interior of the building are shown in Figures 5-14 and 5-15, and a plan view of the structure is

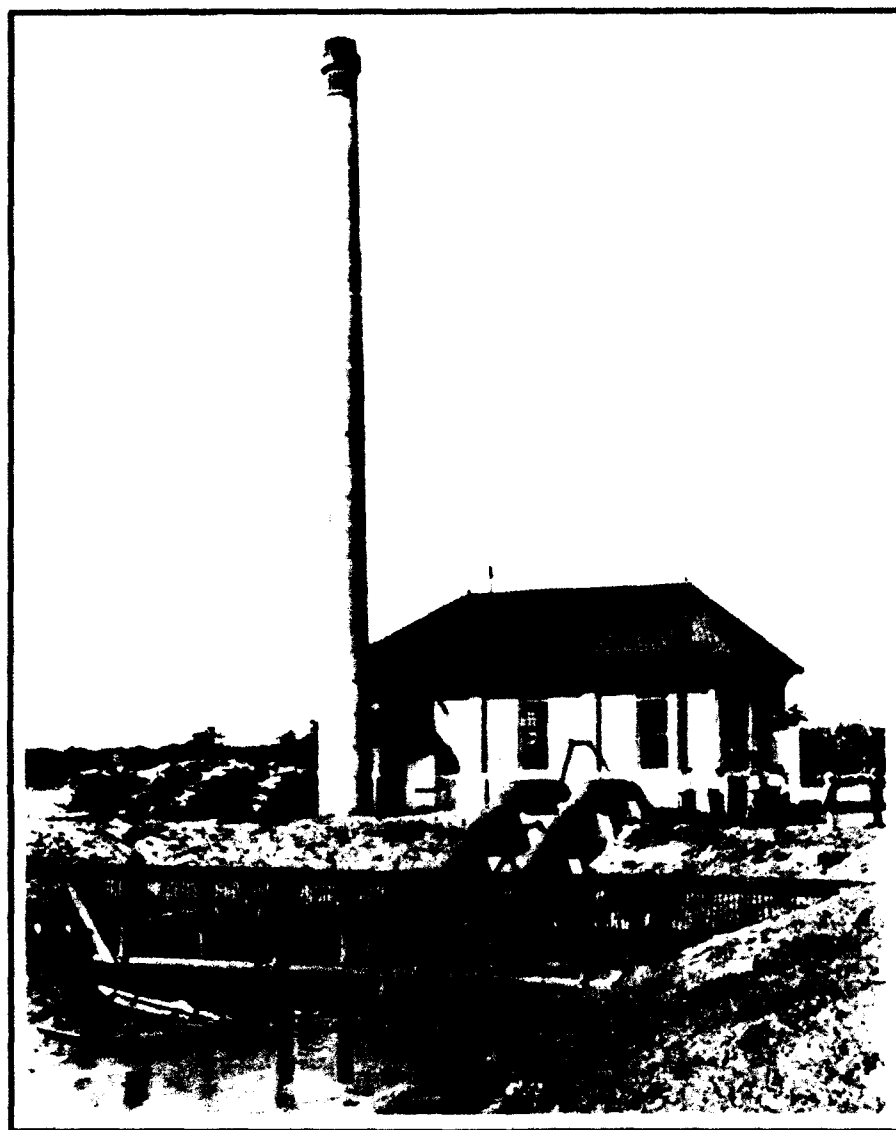


Figure 5-12. Photograph of Drainage Plant No. 1, ca. 1917. View to west.

shown in Figure 5-16. The walls of the building and its tall chimney are still intact, but the tile roof has broken in a number of places. Despite this, much of the machinery inside remains in good condition. The pump assembly and the boiler in particular are in place and relatively intact. Portions of the steam engines have been removed, but the remaining sections are in place.

Comments and Recommendations

Avoca Island Drainage Plant No. 1 has been determined eligible for the National Register of Historic Places and was avoided during construction of the Atchafalaya Basin Protection Levees (Gibson 1982:604). Nevertheless, the structure continues to deteriorate, and its location on the floodside of the levee is probably hastening that process.

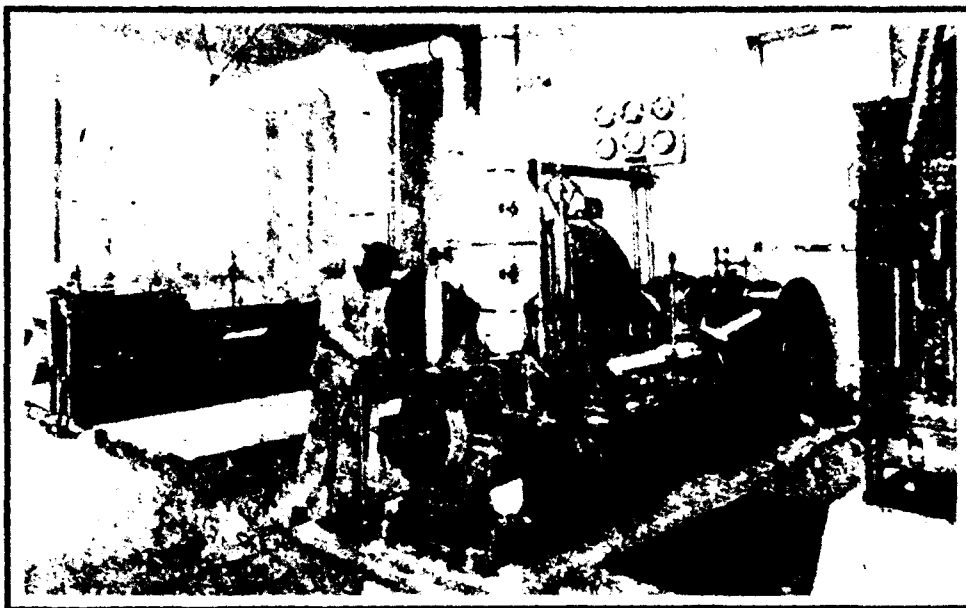


Figure 5-13. View of the interior of Drainage Plant No. 1, ca. 1917.



**Figure 5-14. Front view of Avoca Island Drainage Plant No. 1 (16 SMY 52).
Looking to the east-northeast. Date: 10/31/86.**



Figure 5-15. Interior view of Avoca Island Drainage Plant No. 1 (16 SMY 52), showing central pump assembly and flanking steam engines. Looking to the east. Date: 10/31/86.

AVOCA ISLAND DRAINAGE PLANT NO. 3 (16 SMY 60)

Location and Previous Description

This site is the second of the massive drainage plants built by J. N. Pharr in the late 1800s and early 1900s to be discussed in the current study. In actuality, it was the third plant built, between 1914 and 1916, the first (16 SMY 183) having been constructed in the 1890s on the site of an earlier draining machine (see below), and the second (16 SMY 52) having been constructed between 1910 and 1914 (see above). The history behind the drainage project will not be presented here, as it already has been discussed in Chapter 3 and in Kelley (1988). Nevertheless, because of slight differences in each plant, it is worth repeating the original description of Plant No. 3 by Warren Reed (n.d.), consulting engineer in charge of the construction:

This plant has a reinforced concrete foundation placed on pilings. The building and chimney are of reinforced concrete, with tile roof on steel framework. The engine is cross-compound condensing Lentz poppet-valve type, operated with superheated steam. The boiler burns wood, coal or oil. The Alberger centrifugal pump of this plant stands 20 ft. high. The discharge pipes opening 21 ft. wide and 6 ft. high and the two suction pipes have openings 9 by 13 ft. each. This plant was designed to reduce the water to a depth of 14 ft. below the land level.

The site was originally recorded during the USL survey of the Lower Atchafalaya River area, and reported upon by Gibson (1978b:132-133) at which time he referred to it as the

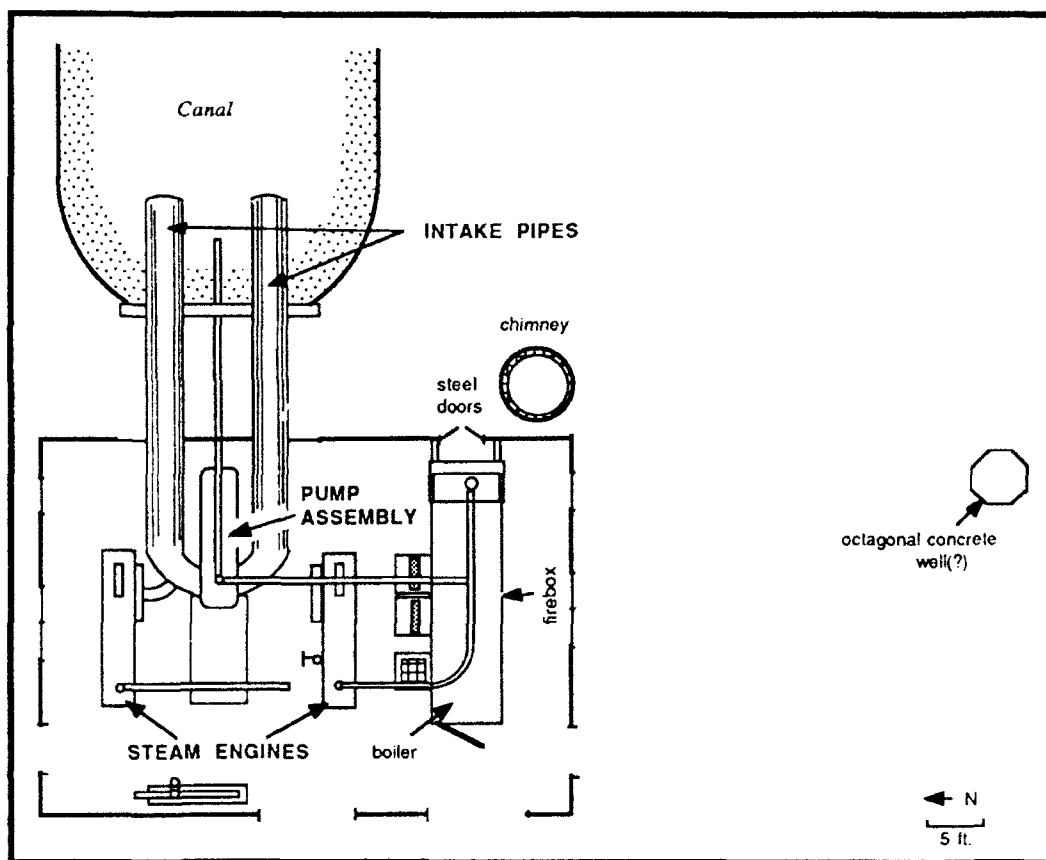


Figure 5-16. Compass and tape map of Avoca Island Drainage Plant No. 1 (16 SMY 52), showing layout of interior machinery.

"Avoca Island Water Lock" site. Because the Pharr family identified it as Drainage Plant No. 3, we have decided to use the historic name. The plant is located at the northern tip of a present-day island that once was the north bank of Bayou Chene. Current quadrangle maps refer to the location with the term "Stack" after the plant chimney still standing at the structure. The 1935 Morgan City, 15-minute quadrangle map shows numerous buildings, presumably houses, in the vicinity of the plant, and indicates that the plant stood at the junction of Rock Bayou and Bayou Chene. Today, these buildings, the land upon which they existed, and Rock Bayou all are gone due to subsidence and marsh deterioration. Only the plant remains.

Gibson (1978b:132) recorded that the structure was a well-preserved building, about 35 m (115 ft) long by 25 m (82 ft) wide, lacked internal partitions except for the fire room, had a gabled roof covered in red ceramic tile, was constructed of concrete, and still contained the pumping machinery. In most respects it was identical to Drainage Plant No. 1 (16 SMY 52). He also suggested that the plant was a historically significant structure that could be damaged by the placement of dredge material near the locale (Gibson 1978b:277, 281).

Present Description

Today, Drainage Plant No. 3 is almost exactly as described by Gibson. Only his estimates of building size are somewhat exaggerated. Figure 5-17 presents a plan view, based

on compass and tape measurements, of the building, while Figures 5-18 through 5-20 offer both exterior and interior views. As can be seen, most of the machinery still is intact, including the two large piston engines, the central pump with its huge flywheel, and two apparent auxilliary gasoline or diesel engines. The boiler and its surrounding fire walls still remain, as well, although the latter have collapsed somewhat. As noted, the walls and floor of the building are composed of reinforced concrete, except for a small brick room in the northeast corner.

The large pump wheel is labeled "ALBERGE. . ." (see Figure 5-20), while one piece of machinery is marked "BUFFALO/PUMP CO./BUFFALO, NY." The roofing tiles are embossed "THE NATIONAL ROOFING TILE/COMPANY/LIMA. O. - U.S.A./PAT. NOV. 26. 1901 -JUN.2.08."

Comments and Recommendations

This site clearly is eligible for inclusion in the National Register, based not only on its historical importance to Avoca Island, but to the fact that its sister drainage plant (16 SMY 52) already has been determined eligible for the Register. Both of these plants, along with the plant at 16 SMY 183, were the key elements in the land reclamation project undertaken by the Pharr family in the early part of this century.

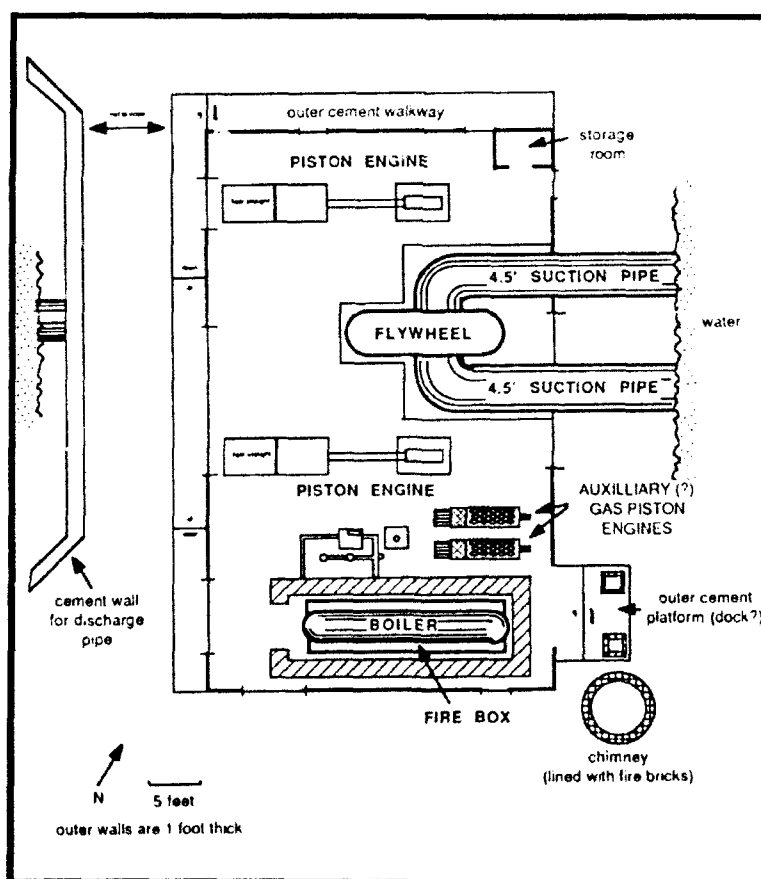


Figure 5-17. Compass and tape map of Avoca Island Drainage Plant No. 3 (16 SMY 60), showing interior arrangement of machinery and boiler.

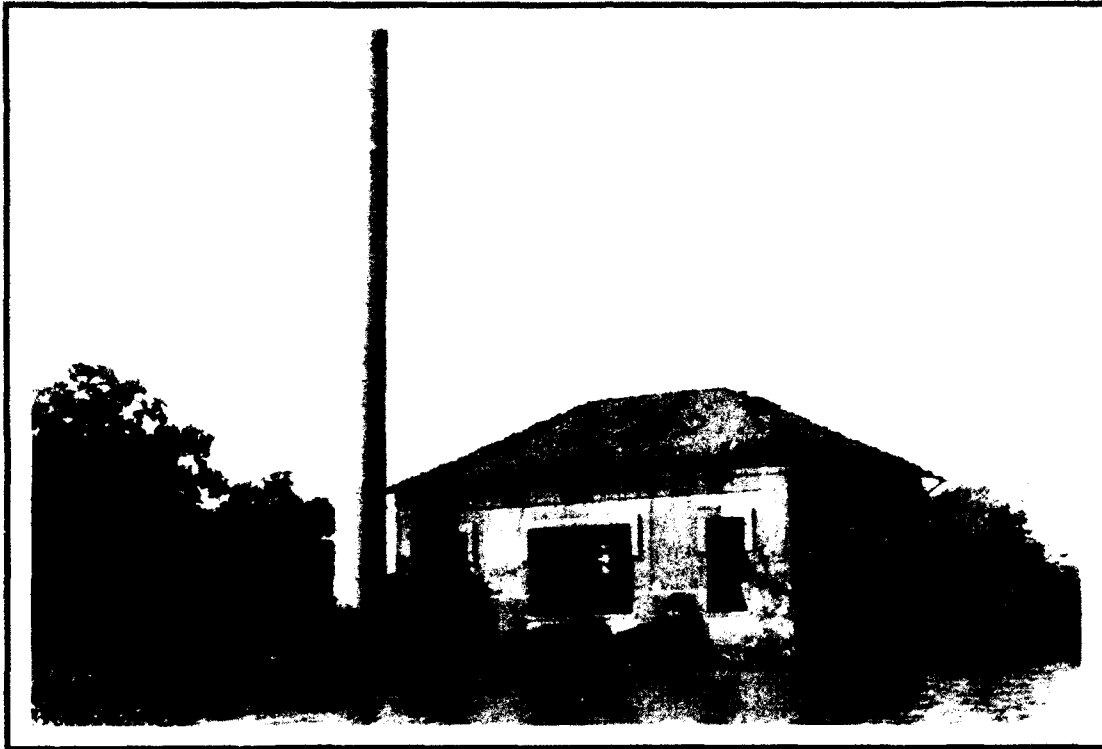


Figure 5-18. Avoca Island Drainage Plant No. 3 (16 SMY 60), showing large suction pipes and detached chimney. View to the southwest. Date: 10/29/86.

NEW OIL LOCATION CANAL (16 SMY 62)

Location and Previous Description

This site lies on a small oil field canal just off the west bank of Bayou Chene approximately 1.25 mi east-southeast of its junction with Bayou Boeuf and 0.5 mi northwest of Bayou Black. It was initially recorded by USL in 1977 when the canal had just been excavated and the spoil banks were free of vegetation (Gibson 1978b:133-135). *Rangia* shells and prehistoric ceramics were found on the surface of the spoil on both sides of the canal, and augering identified an intact shell deposit 5.9 ft below the ground surface. The ceramics identified by Gibson (1978b:Table 7) included 38 undecorated sherds, two sherds of Pontchartrain Check Stamped, var. *Pontchartrain*, two sherds of French Fork Incised, var. *Laborde*, one sherd of French Fork Incised, var. *French Fork*, and one sherd of Coles Creek Incised, var. *Hunt*. With the exception of *Hunt*, which dates to the Baytown period, all of the decorated ceramics point to an early or middle Coles Creek period occupation. It is possible that the sherd identified as *Hunt* is actually *Stoner*, a late Baytown period variety. At 16 SMY 63 Gibson (1978b:Fig. 31d) illustrated a sherd which appears to be *Stoner* and labeled it as *Hunt*. If that is the case here, then a single, terminal Baytown to early Coles Creek occupation may be represented at the site.

Present Description

The spoil banks on which artifacts from the site were first located are now covered by dense undergrowth and briars. Behind the spoil banks the area supports a relatively open bottomland hardwood forest which grades into cypress swamp as one moves off the natural



Figure 5-19. One of the steam engines within the Avoca Island Drainage Plant No. 3 (16 SMY 60). The brick-lined boiler is in the background. View to the south-southwest. Date: 10/29/86.

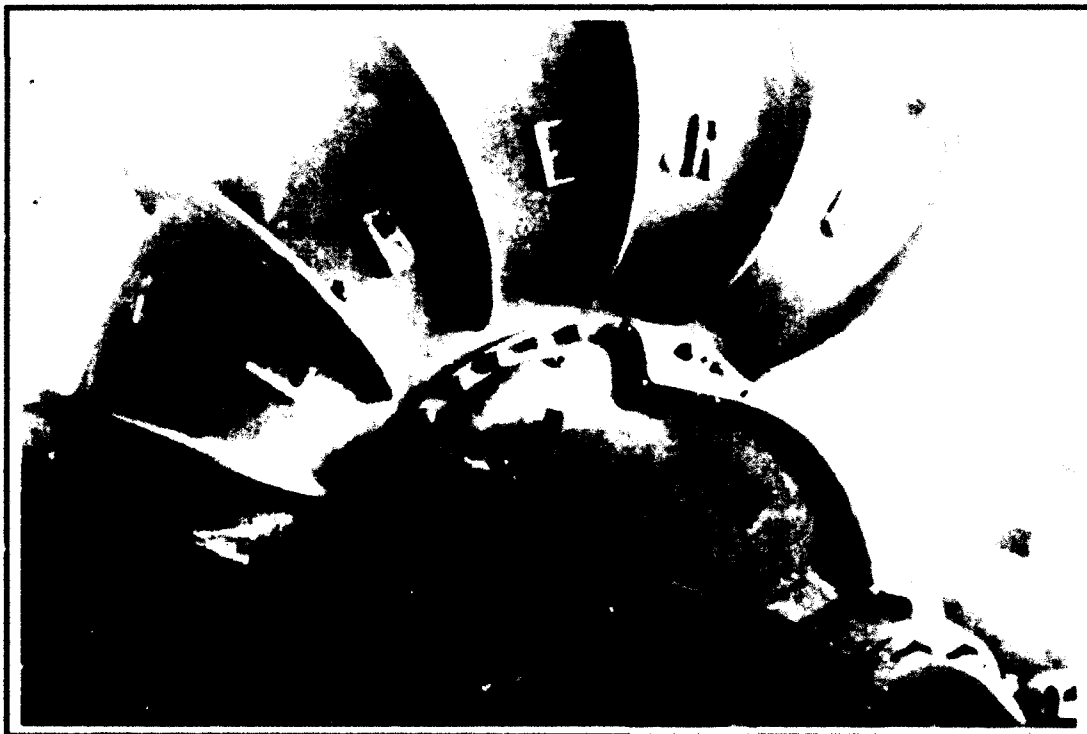


Figure 5-20. Large pump assembly inside Avoca Island Drainage Plant No. 3 (16 SMY 60). Looking to the north. Date: 10/29/86.

levee. Shell was visible in a few areas on the spoil, but nowhere was there sufficient surface exposure to make an adequate collection. The only artifact recovered from the site was a rim sherd of Baytown Plain, *var. unspecified*.

In an effort to locate the intact shell deposit reported by Gibson, five auger borings were excavated at the site, three north of the canal and two south of it (Figure 5-21). The following stratigraphy, recorded in Boring No. 3, is representative of that encountered in all of the borings: 0 to 6 in, mottled grayish brown (10YR 5/2) silty clay; 6 to 20 in, mottled very pale brown (10YR 7/3) silty clay; 20 to 26 in, very pale brown (10YR 7/3) sandy clay; 26 to 48 in, very pale brown (10YR 7/3) silty sand; 48 to 74 in, light brownish gray (10YR 6/2) sandy clay; and 74 to 84 in, mottled gray (10YR 6/1) clay. The uppermost stratum is interpreted as spoil, but beneath that are natural levee deposits and, at a depth of 74 in, the top of a backswamp deposit. No traces of shell or cultural material were encountered in the borings. It is possible that the remaining intact deposit is small and was simply missed in the augering. Unfortunately, Gibson does not illustrate the location of his boring (or borings) which encountered the shell.

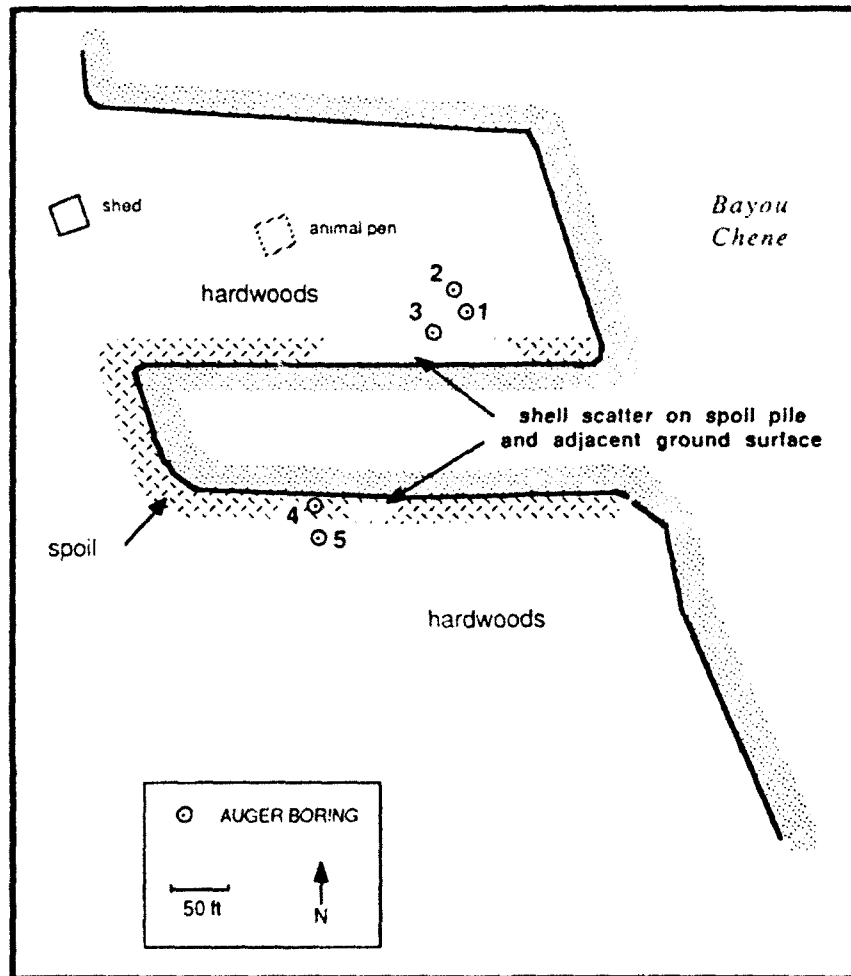


Figure 5-21. The New Oil Location Canal site (16 SMY 62), showing location of auger borings and extent of shell scatter in spoil deposits.

Comments and Recommendations

Gibson argued that this site was significant on the basis of the presence of an intact, subsided *Rangia* shell deposit. The present investigations were unable to locate this deposit, but additional testing should be conducted before the assessment of the site is changed.

BYRD EXTENSION (16 SMY 63)

Location and Previous Description

This site originally was found during construction of the protection levee for the Bayou Chene site (16 SMY 20), which at the time was known as the Byrd site. Gibson (1978b:135-136) provides a detailed discussion of the site, which was situated approximately 250 ft east of the Bayou Chene site, probably on the opposite bank of the small, unnamed bayou which passes that locale. As noted earlier, Smith et al. (1986:Pl.36) identified the bayou as a relict Teche distributary channel.

When first located, the site consisted simply of two concentrations of scattered *Rangia* shell and associated cultural material, spread along the spoil deposits dredged up to form the protection levee. A relatively large collection of material was picked up by the USL archeologists on hand following the dredging, and presented by Gibson (1978b:Table 18, Fig. 31). In addition to 154 plain sherds (again, all probably Baytown Plain), Gibson reported 13 *Pontchartrain*, eight Coles Creek Incised, var. *Hunt*, one French Fork Incised, var. *French Fork*, two French Fork Incised, var. *unspecified*, three French Fork rims, and one Mazique Incised, var. *Mazique*. One of the French Fork rims illustrated by Gibson (1978b:Fig. 31, b) is actually an excellent example of Coles Creek Incised, var. *Dozier* (Brown 1984) with a Lone Oak rim mode (see Wiseman, et al. 1979:7-7 to 7-10), while the one illustrated example of *Hunt* (Gibson 1978a:Fig. 31, d) appears to be Coles Creek Incised, var. *Stoner*. Such changes do not greatly alter the estimated age of the site, except to perhaps tighten the chronology a bit. *Hunt* is more indicative of an early to middle Baytown assemblage, while *Stoner* is somewhat later, marking the middle to late Baytown period.

Regardless of the above interpretation, the remainder of the collection can be related to either the late Baytown or early Coles Creek periods. Perhaps a component overlapping the two periods would be the most likely estimate at this point. Such a hypothesis is somewhat different from Gibson's (1978b:135) inferred Coles Creek age, and slightly earlier than the recognized occupation at the Bayou Chene site.

In order to better assess the extent and stratigraphy at Byrd Extension, Gibson placed two cores into the site along the bank of the newly dredged canal. Both are discussed by Truax and Nault (1978:200-205, 214-215). One, Core A, failed to encounter cultural material, but did hit natural levee deposits at about 1.5 ft (45 cm). The second core, Core B, hit two midden zones, the uppermost between -2.0 ft (-62 cm) and -4.6 ft (-1.39 m), and the lower between -5.9 ft (-1.81 m) and -6.0 ft (-1.83 m). The zones were separated by backswamp clays and silty clays. No natural levee material was found. Because of the dissimilarity between the two cores, it was argued that Core A was placed into a low swale between two midden areas, while Core B was placed into one of the midden locales. The two midden areas, it was reasoned further, probably were represented in the dredge spoil by the two separate *Rangia* scatters noted on the surface (Truax and Nault 1978:214-215). Unfortunately, no maps are available (Jon L. Gibson, personal communication 1986) to indicate exactly where the cores were placed, and, thus, how the stratigraphy relates to the relict distributary channel identified by Smith et. al. (1986:Pl. 36).

Present Description

Today, the canal bank in the area of Byrd Extension is much the same as during USL's investigations. Naturally, small trees and scrub vegetation now cover the spoil deposits and adjacent levee, while additional spoil deposits from Bayou Chene blanket the ground surface east of the levee.

Visual inspection of the site area disclosed a very thin scatter of *Rangia* shell both along the spoil bank west of the levee and, in some cases, up onto the western slope of the levee itself (Figure 5-22). No distinct concentrations of shell, as reported by Gibson, could be found. Similarly, no artifacts or other evidence of the site could be located.

In order to attempt to locate the buried midden area recorded by Gibson, a series of 6-ft-long probes and auger borings were systematically placed along the canal edge on a thin

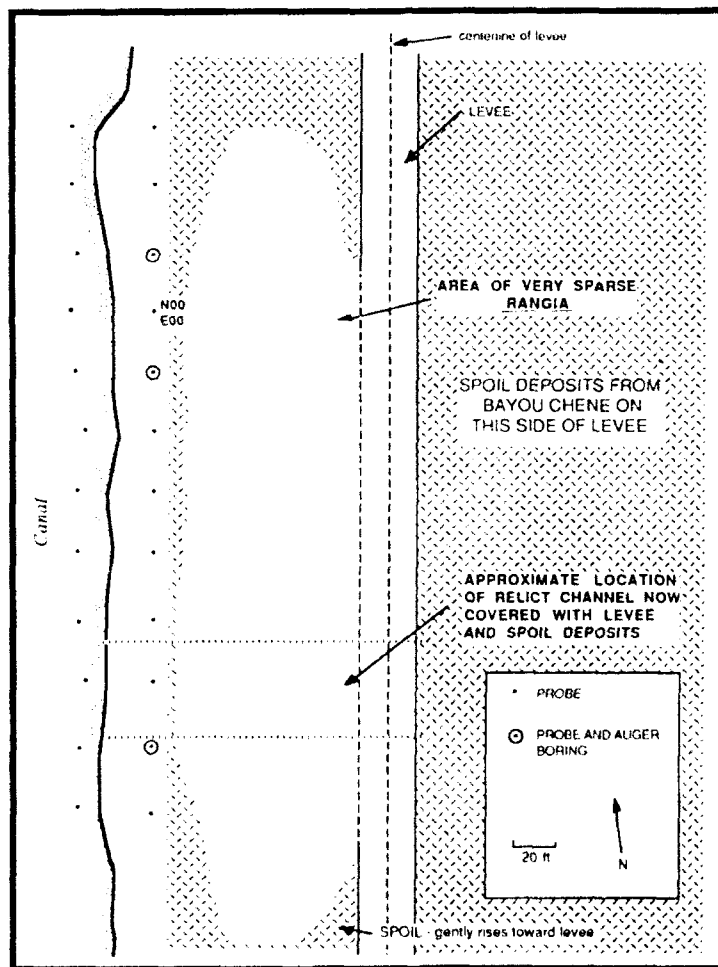


Figure 5-22. Sketch map of the Byrd Extension site (16SMY 63), showing extent of surface shell and locations of auger borings and probes.

strip of ground not covered by spoil. In addition, probes were put down through the water approximately 5 ft offshore. None of the probes or auger borings hit any shell or cultural remains. In several cases, the probes encountered what appeared to be a hard surface, usually between about -2.3 and -3.5 ft, and it was thought that this could be the buried natural levee upon which the site would have rested. Augering in these locations, however, showed that the hard surface was simply a texture change within a continuous column of clay, and that there was no obvious natural levee present. A typical boring revealed the following: 0 to -2.4 ft, very dark grayish brown (2.5Y 3/2) clayey silt with clay pockets and mixed roots; -2.4 to -6.0 ft, gray (2.5YR 5/0) clay with some organics that became more firm with depth. Perhaps this lower clay is the old natural levee, but, if so, it is not similar to the levee deposits encountered beneath the Bayou Chene site (16 SMY 20) only a few hundred feet to the west.

Comments and Recommendations

It is difficult to explain the lack of success in relocating the buried midden at Byrd Extension. The survey team is confident they were in the proper location, and that their probes and auger borings were sufficient in both quantity and depth to locate any cultural material if it was present. It is probable, therefore, that the midden area revealed in Gibson's Core B, was only a small remnant of a once larger site, and that the remnant is now completely gone. It does not appear that the canal adjacent to the site has been widened since Gibson's visit, but such a possibility cannot be ruled out entirely. Perhaps more likely is the fact that some erosion has occurred due to small boats travelling the canal, and such erosion was sufficient to remove what little midden may have survived the original levee construction.

Needless to say, based on the present findings, the site is not considered eligible for inclusion in the National Register.

PUFF-BALL (16 SMY 65)

Location and Previous Description

There is considerable confusion regarding the location of this site, and, as will be seen, this has led to unfortunate consequences for the present study. The site originally was located by USL archeologists during their survey of the lower Atchafalaya River in 1977 (LDA site form). The site form notes that Puff-Ball was a well-preserved, in situ, black earth and *Rangia* midden, measuring about 130 ft long, by 25 ft wide, by 1.1 ft deep, and that it was at the location of an oil well and slush pit.

The location given for the site is "near canal constructed to form dikes for SMY 20; 1.6 km [1 mi] west of the confluence of Bayous Black and Chene" (LDA site form). However, the site map accompanying the site form, along with the latitude and longitude coordinates, place the site about 3.1 mi west of the Black/Chene junction, on a levee 0.5 mi due east of Bayou Lawrence. This is also the location marked on site maps at both USL and the LDA. The final report of USL's survey (Gibson 1978b:138) notes that the site "Lies in swamp between Bayou Lawrence and Bayou Boeuf. . .," which does little to resolve the problem. The only artifacts recovered at the locale were lost following fieldwork (Gibson 1978b:138), but were reportedly Coles Creek types.

Present Description

Despite repeated attempts to relocate this site, the present survey was unable to do so. The location noted on the site maps was checked, along with another promising area on Bayou Lawrence itself. Similarly, a boat crew followed the 16 SMY 20 canal to the northwest to the point where it branches and intersects one of the old Pharr levees. Beyond that point, the canal

was choked with water hyacinths and the survey could not be continued. In none of the three areas searched, however, was an oil well seen, nor is any well shown on the 1980 photorevised 7.5-min., Amelia, Louisiana, quadrangle.

Comments and Recommendations

There is little else to add regarding this site. It may be significant regarding National Register eligibility, as Gibson (1978b:281, Table 43) suggests, but without additional information this cannot be verified. Obviously, the critical problem to resolve is true site location. Once that is done, then the site can be incorporated into regional management plans, settlement studies, and paleogeographical interpretations.

AVOCA ISLAND (16 SMY 125)

Location and Previous Description

This site was discovered in April 1975 by Weinstein and Eileen Burden during their survey of the GIWW. A site form describing the locale was included in the final report of that study (Gagliano et al. 1975:132). At that time the site was described as a thin (5 to 8 in thick) *Rangia* lens eroding out of the west bank of Bayou Boeuf, about 1.4 mi west of site 16 SMY 44. The lens extended approximately 20 to 30 ft along the bank and was covered by about 2 ft of what was identified as spoil. No artifacts were found.

According to Smith et al. (1986:Pl. 36), the site is situated within the filled trunk channel of the former Teche-Mississippi course. Gagliano et al. (1975:132) recommended that the site be tested to determine cultural content and significance.

Present Description

The general site description today is not much changed from that of 1975. Apparently, however, either the site length was greatly underestimated or the bankline has eroded back a good bit, exposing a greater length of lens, probably the latter. Figure 5-23 shows the terrain at the site, based on a compass and tape map drawn during the present study, while Figure 5-24 is a photograph of a portion of the exposed shell lens. As can be seen, the lens was noticeable for approximately 270 ft along the bank, and was covered in places by a remnant of what could be spoil, but more than likely is an old levee that once ran along the Bayou Boeuf bank in this section of Avoca Island. The probability that this feature actually is an old levee is substantiated somewhat by two parallel sets of similar features extending south-southeast from the bankline levee at a point just downstream from the northern end of the shell lens. These latter features may be more recent set-back levees, although they, too, appear quite old.

The shell lens itself is buried approximately 1 ft below the top of the existing bank in areas where no levee remains, but is about 2.5 to 3 ft below the top of the levee where the latter feature is exposed along the bank. The lens is about 0.5 ft thick.

Two localized scatters of *Rangia* shell are present atop the bank, one immediately adjacent to a small slip-like cut, and the other near the north end of the lens. In addition, a small wave-washed shell beach was present in the northern portion of the site.

A line of 6-ft-long probes and one auger boring were placed parallel to the present bank (see Figure 5-23). None of the probes encountered shell, while the auger boring yielded only the following: 0 to -1.1 ft, dark brown (10YR 3/3) silty clay with oxidation streaks; -1.1 to -3.0 ft, grayish brown (10YR 5/2) silty clay with oxidation streaks. The upper stratum is interpreted as disturbed natural levee (probably from levee construction), while the lower

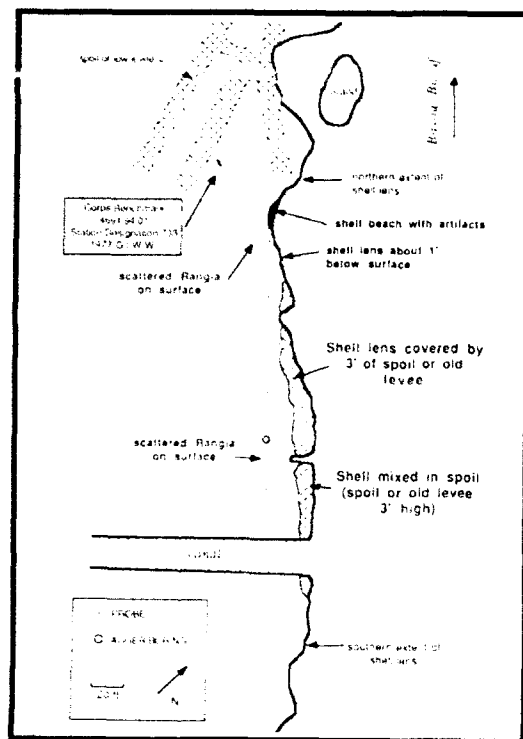


Figure 5-23. Sketch map of the Avoca Island site (16 SMY 125), showing probe and auger boring locations and extent of surface *Rangia* shell.



Figure 5-24. Shell lens exposed in the bank of Bayou Boeuf at the Avoca Island site (16 SMY 125). View to the southwest. Date: 11/3/86.

stratum is intact natural levee. Based on these results, it would seem that the shell lens is extremely narrow, and does not extend more than a few feet into the present bank.

The bankline was examined systematically, in 30-ft-long intervals, but only the two areas of scattered *Rangia* yielded ceramic sherds. The northern scatter produced six Baytown Plain, *var. unspecified*, 15 Mississippi Plain, *var. unspecified*, two unclassified incised on Baytown paste (one of which could be from a vessel of Mazique Incised, *var. Manchac*), and one unclassified incised on paste equivalent to Addis Plain, *var. Greenville*. Interestingly, nine of the 15 Mississippi Plain sherds contain small amounts of what appears to be grog in their paste. The shell tempering is so overwhelming, however, that the sherds have been classed as Mississippi Plain, rather than Addis Plain, at this point. Perhaps, with more data, it will be possible to establish a new variety of either of those two types to reflect this ware.

In any case, the southern *Rangia* scatter yielded only two sherds of Baytown Plain, *var. unspecified*, and one sherd of Mississippi Plain, *var. unspecified*. Overall, the site appears to include two potential components, one of the Plaquemine culture, probably very late within the culture, and one possibly of the Mississippian culture, most likely at a time when shell-tempered pottery was beginning to be used in this part of Louisiana. Alternatively, one could just as easily argue that only one component is present, and that it occurred right at the time that Plaquemine culture began to receive strong Mississippian influence.

Comments and Recommendations

This relatively late site is one of several small middens that once existed along the north bank of Avoca Island, most of which show some degree of Mississippian influence or interaction. Based on the presence of the *Rangia* lens, it can be argued that the site served as a small shellfish-collecting and probable fishing locality during its use. However, given the relatively high and dry natural levee along the north bank of Avoca Island, it is likely that a small hamlet may have been situated nearby, the evidence of which was not found during the present testing program. It may also be argued that this site was somehow related to the large mound center at Berwick. Judging by the mound and plaza arrangement at that site (see Figure 3-2), it would seem the locale was active rather late in the prehistory of the area, probably within the middle to late Mississippi period, and thus may have been contemporary with the Avoca Island middens.

Presently, it is uncertain whether site 16 SMY 125 meets the criteria of National Register eligibility. Intact shell midden does occur along the bank, but it apparently represents only the last vestiges of the site. It, therefore, is uncertain as to how much useful data the midden is likely to yield. Considering, however, that this site is one of only a few surviving Mississippi period locales on Avoca Island, then it should be considered potentially eligible for the Register.

AVOCA ISLAND SLOUGH (16 SMY 126)

Location and Previous Description

This site originally was described as an eroding *Rangia* lens, approximately 20 to 30 ft long, exposed in the west bank of Bayou Boeuf about 0.2 mi southeast of site 16 SMY 125 (LDA site form). It was found by Weinstein and Burden in April 1975, and reported upon in the GIWW survey report (Gagliano et al. 1975:133). The lens then was between 6 and 8 in thick and covered by about 2 ft of spoil deposits. A narrow drainage canal entered Bayou Boeuf at the south end of the site, had the appearance of a small slough, and thus gave the site its name. No artifacts were found.

Gagliano et al. (1975:133) recommended that the site be tested to determine cultural content and significance. According to Smith et al. (1986:Pl. 36), the site is situated within the now-filled trunk channel of the Teche-Mississippi.

Present Description

No evidence of an intact site could be found during the present study. Several pockets of entirely wave-washed *Rangia* shell were seen along the bank in the general site area, but none contained any artifacts. Although the shell probably represents the remains of the shell lens seen in 1975, this cannot be confirmed with the present data. Probing atop the bank at the site location failed to encounter any buried remains, as well.

Comments and Recommendations

This site apparently has been destroyed by bankline erosion. If the dimensions given in 1975 were accurate, then there was not much intact material left then, and it is conceivable that the site now is gone. Neither the 1975 survey nor the present study recovered any artifacts, so cultural affiliation will remain unknown. This site is not considered eligible for the National Register.

AVOCA ISLAND SPOIL BANK (16 SMY 127)

Location and Previous Description

This is another shell-lens site discovered in April 1975 by Weinstein and Burden during their survey of the GIWW (LDA site form). It was reportedly located along the west bank of Bayou Boeuf, about 0.3 mi northwest of site 16 SMY 125. The site was described as a 6- to 8-in-thick *Rangia* lens exposed in the bank and covered with about 2 ft of spoil deposits. It measured about 20 ft long (Gagliano et al. 1975:134).

No artifacts were found, but it was suggested that the site was potentially eligible for the National Register, and should be tested for significance (Gagliano et al. 1975:134). As with the previous few sites along Bayou Boeuf, Smith et al. (1986:Pl. 36) suggest that 16 SMY 127 is located atop fill within the abandoned trunk channel of the Teche-Mississippi.

Present Description

The present survey relocated site 16 SMY 127 about 0.5 mi farther to the northwest than the location reported by Weinstein and Burden. There is no doubt, however, that the new location is correct, and that it reflects the same site.

The site today actually consists of two separate lenses of shell eroding out of the Avoca Island bank (Figures 5-25 and 5-26). The northern lens measures approximately 40 ft long, is about 0.2 ft thick, and is covered by about 1.1 ft of spoil. An iron pipe is protruding from the spoil immediately above the shell lens. The southern lens is exposed for about 180 ft along the bank, is 0.2 ft thick, and is covered by approximately 2.5 ft of spoil. At the extreme south end, the lens dips sharply until it disappears below the water. The entire area is covered with spoil which extends back from the bank for at least 100 ft. To the south of the southern lens, scattered *Rangia* were seen in the spoil, but no artifacts were noted. In fact, the only area to yield artifactual remains was a narrow, wave-washed beach deposit adjacent to the bankline at the south end of the southern lens. Shells from this deposit also had been thrown back over the bank and were scattered atop the spoil in an area about 20 ft in diameter (see Figure 5-25). Material collected consisted entirely of four sherds of Baytown Plain, *var. unspecified*.

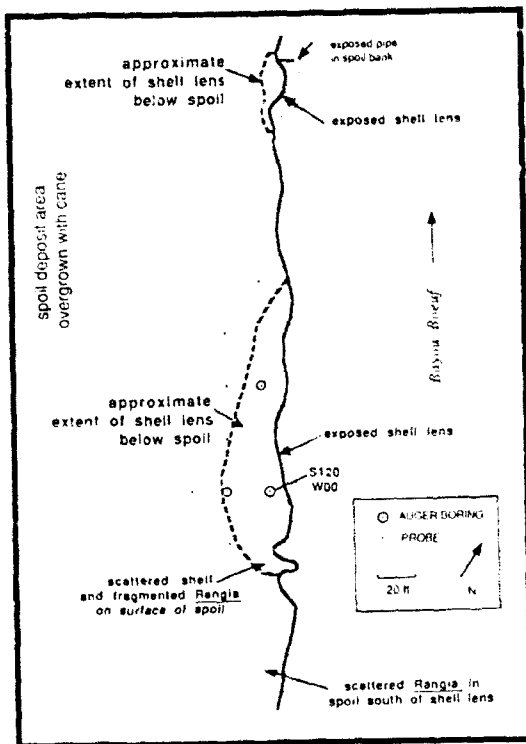


Figure 5-25. Sketch map of the Avoca Island Spoil Bank site (16 SMY 127), showing midden extent and the locations of probe holes and auger borings.



Figure 5-26. Shell midden exposed in the bank of Bayou Boeuf at the Avoca Island Spoil Bank site (16 SMY 127). View to the southwest. Date: 11/4/86.

Several auger borings and probe holes were placed down atop the bank in the area of the southern lens (see Figure 5-25). These showed that the lens extends back from the bank an average of about 20 ft with its widest dimension at about 30 ft. Of the three auger borings, that at S120W00 yielded the clearest stratigraphic picture: 0 to -2.2 ft, brown (10YR 4/3) silty clay with oxidation streaks; -2.2 to -2.7 ft, brown (10YR 5/3) clayey silt with *Rangia*; -2.7 to -3.0 ft, very dark grayish brown (10YR 3/2) clayey silt. The upper stratum is interpreted as spoil, the middle stratum as shell midden, and the lower stratum as natural levee.

Comments and Recommendations

It presently is uncertain whether Avoca Island Spoil Bank is eligible for inclusion in the National Register. As discussed under 16 SMY 125, however, the site may represent the remains of several fairly late occupation or collecting locales that flanked the north edge of the Avoca Island. If that is the case, and these sites represent the last evidence of this settlement pattern, then they should be considered potentially significant. Unfortunately, without more artifactual evidence, the exact age or cultural affiliation of 16 SMY 127 cannot be pinned down.

BAYOU BOEUF SOUTH (16 SMY 128)

Location and Previous Description

This site represents the fourth and final shell lens recorded along this stretch of Avoca Island by Weinstein and Burden in April 1975. It was reported to have been an eroding *Rangia* midden, approximately 6 to 8 in thick, about 20 ft or so long, and capped by 2 ft of spoil. Its position was approximately 0.7 mi west-southwest of site 16 SMY 124 and about 0.35 mi southeast of 16 SMY 126.

No artifacts were found during the initial survey. Unlike the other sites, however, Smith et al. (1986:Pl. 36) indicate that Bayou Boeuf South was positioned atop the natural levee of the trunk channel of the Teche-Mississippi, and not within more recent channel fill.

Present Description

This site could not be relocated due to major bankline alterations which have occurred since the 1975 visit. Figure 5-27 shows that the former site area is now covered in rip rap, while the ground adjacent to the bank has been graded and is now covered with cane and scrub vegetation.

Despite the obvious disturbances noted, it was believed that several auger borings should be placed down in an effort to locate any remains of the midden. Thus, two auger borings, labeled the west and east borings (see Figure 5-27) were drilled near the south edge of the riprap. Neither boring encountered any evidence of midden, and, in fact, showed that the ground was disturbed to a depth of 3.5 ft in some places. Since the site was recorded as 2 ft below the surface in 1975, it may be surmised that it has been destroyed.

Comments and Recommendations

Unfortunately, all evidence of Bayou Boeuf South has been removed by bankline grading and the placement of protective riprap. Therefore, there is no information on cultural affiliation or period of use. Similarly, there is nothing to support a National Register eligibility nomination.

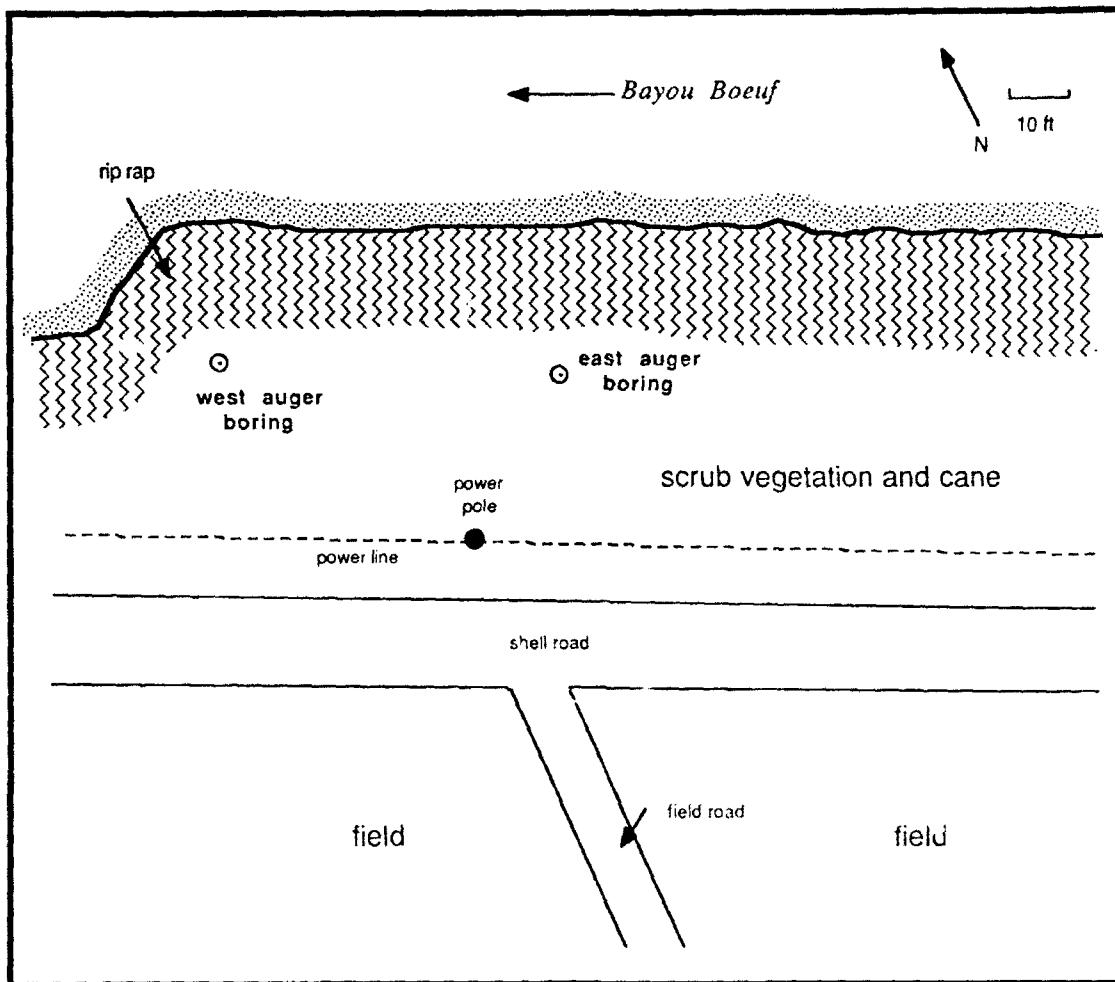


Figure 5-27. Sketch map of the former location of the Bayou Boeuf South site (16 SMY 128), showing location of the two auger borings and extent of recent rip rap.

HEAD OF BAYOU CHENE (16 SMY 129)

Location and Previous Description

This site is located on the south bank of Bayou Chene approximately 0.2 mi east of its junction with Bayou Boeuf. It was originally reported by Weinstein and Burden during CEI's 1975 survey of the Gulf Intracoastal Waterway (Gagliano et al. 1975:136). They described it as a thin lens of *Rangia* shells that was buried beneath 2 ft of spoil and extended approximately 20 to 30 ft along the bank. No artifacts were recovered at that time.

Two years later archeologists from USL reexamined the site (which they renamed Fish Camp Bay) and were unable to locate the buried shell lens (Gibson 1978b:140). They did note that eroded *Rangia* shells occurred for about 65 ft along the bankline, and they recovered two aboriginal sherds, both plain, from a boatslip at the site. Based on these findings they argued that the site had been destroyed by erosion and construction activities.

Present Description

During the present project the reported location of 16 SMY 129 was carefully examined by boat. Scattered *Rangia* shells were observed in the area of a boat dock (probably the same one from which the USL archeologists recovered the two sherds), and two small lenses of shells were found west of there (Figure 5-28). Some of the shells occurring near the boat dock are undoubtedly derived from a shell road which leads to it. If a shell midden was previously located in this area it has now been extensively altered by erosion and camp construction.

The two shell lenses noted west of the boat dock were buried 12 to 15 in below the ground surface and extended 5 to 10 ft along the bankline. Three auger borings were excavated in this area, one adjacent to the western lens and two near the eastern lens. All three encountered the following stratigraphy: 0 to -12 in, dark brown (10YR 4/3) clayey silt; -12 to -36 in, mottled very pale brown (10YR 7/3) silty clay. A small fragment of *Rangia* shell occurred in the upper stratum in Boring 2, but aside from that no evidence of the shell lenses was found. In Boring 3 a piece of glass was encountered in this same stratum. The auger borings suggest that the shell lenses observed in the bank are very limited in extent and are interbedded with natural levee deposits.

Comments and Recommendations

Very little is known about the age of 16 SMY 129 since the only aboriginal artifacts recovered from it are two plain and probably grog-tempered sherds. The site has now been largely destroyed by erosion and camp construction, and significant intact deposits are probably no longer present.

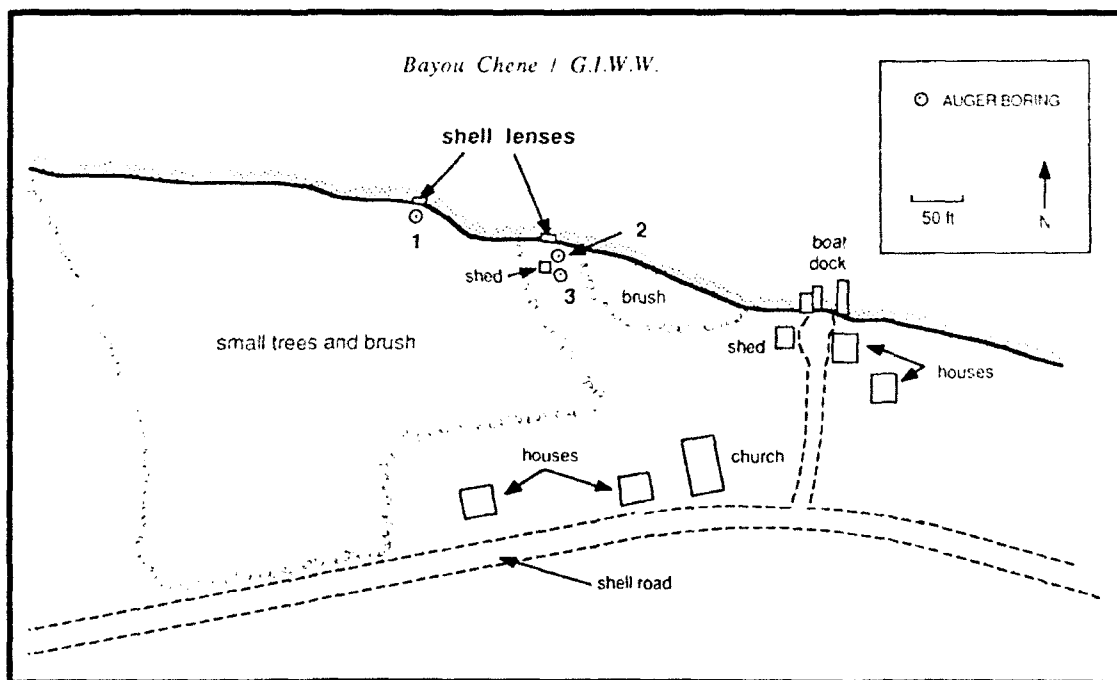


Figure 5-28. Sketch map of the Head of Bayou Chene site (16 SMY 129), showing locations of auger borings, bankline shell lenses, and current structures.

AUCOIN I (16 SMY 142)

Location and Previous Description

The Aucoin I site is located on the west bank of Bayou Boeuf approximately 0.25 mi north of the Southern Pacific Railroad tracks. It was first recorded by Weinstein and Burden in 1976 during CEI's survey of the proposed route of U.S. Highway 90 (Weinstein et al. 1978:130-133). They described the site as a wave-washed *Rangia* shell midden which extended 167 ft along the bankline and 13 ft back from the bank. Occasional shells were also noted as far as 66 ft from the bayou. Approximately 3.3 ft of spoil and several large sand piles had recently been deposited on the northern end of the site. No subsurface testing was conducted at that time.

The small collection obtained by Weinstein and Burden included one sherd of Evansville Punctated, *var. unspecified*, one sherd of Mazique Incised, *var. Bruly*, one sherd of Addis Plain, *var. unspecified*, and thirteen sherds of Baytown Plain, *var. unspecified*. On the basis of this material they suggested that the site was occupied during the late Coles Creek and early Mississippi periods. It should be noted, however, that *Bruly* may date as early as the Baytown period, possibly indicating an earlier initial occupation for the site.

Two historic sherds, one of salt-glazed stoneware and the other of blue transfer-printed ware, were also recovered. They are apparently related to a nineteenth-century occupation of this locale.

Present Description

The remaining portion of the Aucoin I site lies in a small, grassy lot which is bordered on the south by the Louisiana Limestone Aggregate plant and on the north by an overgrown field containing abandoned heavy equipment (Figure 5-29). The bankline of Bayou Boeuf has not been rip rapped in this area, and *Rangia* shells are present at the water's edge, although no intact lenses are visible. There is also a light scattering of shells on the ground surface.

Three auger borings were excavated at distances of 10, 30, and 60 ft from the bankline of Bayou Boeuf (see Figure 5-29). Auger Boring No. 1 encountered the following stratigraphic sequence: 0 to -12 in, very pale brown (10YR 7/3) silt; -12 to -38 in, grayish brown (10YR 5/2) silty clay, with *Rangia* shell fragments from -20 to -36 in and brick fragments from -30 to -34 in; -38 to -60 in, oxidized gray (10YR 5/1), silty clay. The upper two strata are interpreted as spoil deposits, while the lowest stratum appears to represent an undisturbed natural levee deposit. Boring No. 2 revealed a similar sequence with the exception that the spoil deposits were only 28 in thick there, and *Rangia* shell fragments were found from -28 to -38 inches in the underlying natural levee deposit. In Boring No. 3 the spoil deposits were 26 in thick, and the natural levee deposit again contained shell fragments at a depth of 42 in. The borings suggest that, even though much of the site has been destroyed by erosion and construction activities, intact cultural material may be present in the buried natural levee deposits back from the bankline.

Comments and Recommendations

The Aucoin I site represents either a relatively small *Rangia* shell midden or a remnant of a much larger midden similar to the nearby Thibodaux site (16 AS 35). It was occupied during the late Coles Creek and early Mississippi periods and possibly earlier. Much of the site has now been destroyed, but intact deposits with research potential may still be present.

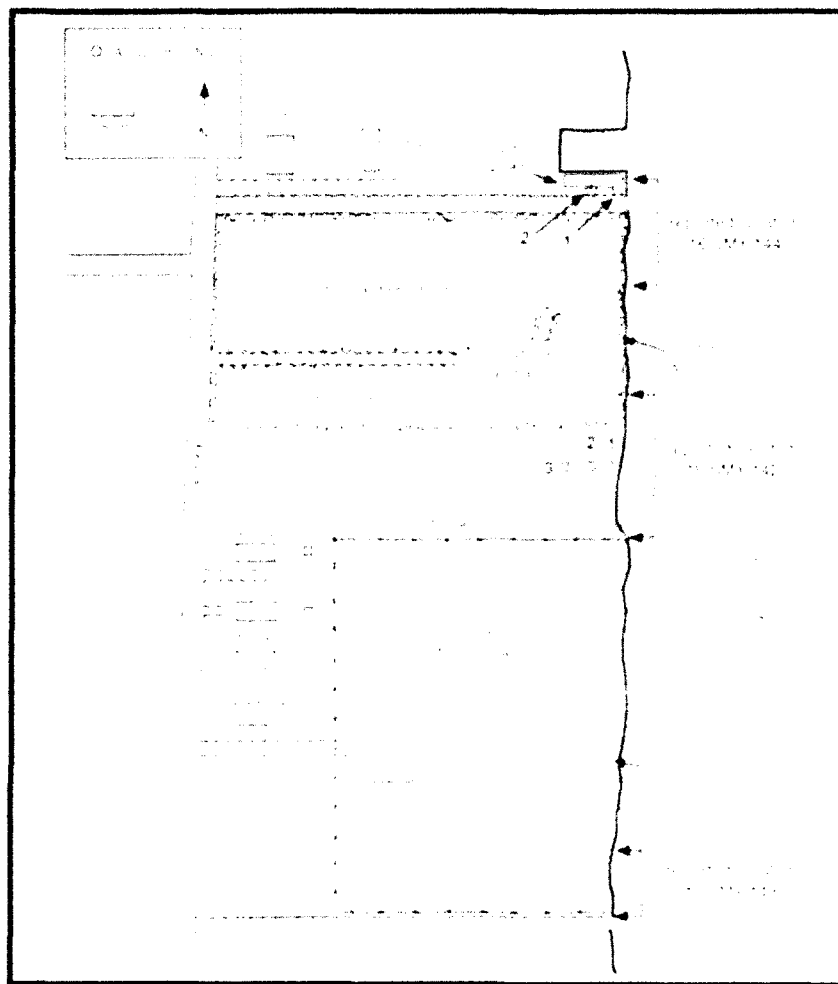


Figure 5-29. Sketch map showing reported locations of the Aucoin I (16 SMY 142), Aucoin II (16 SMY 143), and Gagliano Garden (16 SMY 144) sites. Locations of auger borings at Aucoin I and Gagliano Garden are shown.

AUCOIN II (16 SMY 143)

Location and Previous Description

This site was located approximately 325 ft south of Aucoin I on the west bank of Bayou Boeuf. When recorded by Weinstein and Burden in 1976 it consisted of a wave-washed *Rangia* shell midden that was visible for approximately 30 ft along the bankline (Weinstein et al. 1978:133-134). The site had been covered by over 4 ft of spoil, and its southern end had been cut by a canal. The small collection recovered at that time consisted of nine sherds of Baytown Plain, *var. unspecified* and one sherd of Addis Plain, *var. unspecified*. On the basis of this material Weinstein et al. (1978:133) suggested that the site was probably occupied during the late Coles Creek and early Mississippi periods.

Present Description

Today the reported location of the Aucoin II site is covered by the Louisiana Limestone Aggregate plant (see Figure 5-29). The bankline of Bayou Boeuf has been rip rapped in this area, and the ground surface is covered with crushed limestone. Neither bank examination nor subsurface testing could be conducted there.

Comments and Recommendations

The Aucoin II site was apparently another small *Rangia* shell midden, possibly contemporary with its neighbor, Aucoin I. The site has now been destroyed by erosion and commercial construction.

GAGLIANO GARDEN (16 SMY 144)

Location and Previous Description

This site was located approximately 300 ft north of the Aucoin I site (16 SMY 142) on the west bank of Bayou Boeuf, and, like its neighbor it was recorded by Weinstein and Burden during the U.S. 90 survey (Weinstein et al. 1978:134-136). They described it as a wave-washed *Rangia* shell midden which was visible along the bankline in the vicinity of a vegetable garden. The site had been cut by a drainage canal, and extended for a distance of about 92 ft south of the canal and 13 ft north of it. The portion of the site located south of the canal had been covered by about 1.5 ft of spoil, and thin lenses of *Rangia* shells were visible in places beneath the spoil. A collection of artifacts obtained from the surface of the spoil included three sherds of Addis Plain, *var. unspecified*, nine sherds of Baytown Plain, *var. unspecified*, one sherd of Evansville Punctated, *var. Wilkinson*, and one sherd of Mississippi Plain, *var. unspecified*. On the basis of this material Weinstein et al. (1978:135) identified early and late Mississippi period occupations at the site.

Present Description

The southern portion of the site is now covered by large spoil piles and rip rap which extends below the waterline; however, the northern portion is still accessible (see Figure 5-29). The Gaglianos no longer live at the site, but the former location of their garden was readily identifiable. Small fragments of *Rangia* shell were present in the old garden, but no artifacts were visible. Two auger borings were excavated between the garden and the canal. Boring No. 1, located about 10 ft from the bank of the bayou, encountered the following stratigraphy: -0 to -10 in, brown (10YR 5/3) clayey silt with a few *Rangia* shell fragments; -10 to -28 in, oxidized gray (10YR 6/1) clay with organic matter; -28 to -48 in, dark gray (10YR 4/1) organic clay with glass fragments at -28 in and -40 in and a piece of metal at -36 in. At a depth of 48 in the auger was stopped by a large piece of wood. The entire sequence of this boring is interpreted as a spoil deposit.

Boring No. 2 was placed ca. 40 ft. from the bank of the bayou and encountered spoil to a depth of 44 in, beneath which was a gray (10YR 5/1) clay that contained neither *Rangia* shells nor artifacts. The borings suggest that intact deposits are no longer present at the site.

Comments and Recommendations

The Gagliano Garden site represents another in the series of small *Rangia* shell middens located along the west side of Bayou Boeuf. Artifacts collected from the site previously suggest that it was occupied throughout the Mississippi period. During the past twelve years bankline erosion and construction activities have destroyed any intact portions of the site.

BAYOU BOEUF SPOIL (16 SMY 145)

Location and Previous Description

This site is located on the west bank of Bayou Boeuf immediately north of the Southern Pacific Railroad tracks. When reported by Weinstein and Burden during the U.S. 90 survey it consisted of a recent deposit of dredge spoil containing large quantities of historic artifacts (Weinstein et al. 1978:136-148). The material extended for a distance of approximately 500 ft north of the railroad tracks, but most of the artifacts occurred in the southern one-third of the site. The collection made by Weinstein and Burden included large numbers of glass bottles, particularly beer, wine, and liquor bottles, a smaller quantity of whiteware, porcelain, and stoneware, a few metal artifacts, and miscellaneous other items (Weinstein et al. 1978:Table 23).

Maker's marks on the glass and ceramic artifacts indicated that the material dated predominantly to the late nineteenth and early twentieth centuries. Intact deposits were not observed during the survey, but no subsurface testing was conducted.

Present Description

Today the southern half of the site is occupied by the RTF, Inc., fabricating company (Figure 5-30). The bankline of Bayou Boeuf has been graded to a stable slope in this area to allow equipment access to boats which are being repaired. A few historic artifacts are visible along the bank (Table 5-4), but this area has been heavily impacted by recent construction activities. The northern half of the site lies in an old field that contains abandoned heavy equipment and is now covered by small willow trees and brush. Access to this area was difficult, but a single auger boring was excavated near the bankline there. The boring encountered 48 in of recent spoil deposits and was halted at that point. It is doubtful if intact deposits are present at the site.

Comments and Recommendations

This site apparently represents a location where spoil dredged from Bayou Boeuf was dumped in order to build up the land surface. The spoil contained large numbers of late-nineteenth- and early-twentieth- century artifacts derived from a nearby habitation or boat traffic or both. The area has now been further impacted by commercial construction activities, but it is doubtful if intact deposits were ever present.

BAYOU BLACK-GIWW (16 TR 84)

Location and Previous Description

This site is situated on the south bank of Bayou Black at the bayou's junction with the GIWW. It was found by Kathleen Byrd during her 1972 cultural resources survey of portions of bayous Boeuf, Black, and Chene (LDA site form), and subsequently discussed in her report of that survey (Byrd 1972:3). The site was described as an eroding 4- to 6-in-thick *Rangia* midden, buried about 2 ft below the ground surface, and extending along the bank for approximately 30 ft. A modern camp and associated historic debris occupied the ground above the shell lens. No collection was made.

The site was revisited during CEI's survey of the GIWW, and an updated site form was included in that study (Gagliano et al. 1975:143). Basically, the site was unchanged since Byrd's visit only three years earlier. However, a small collection of prehistoric material was obtained. Included was one sherd identified as Rhinehart Punctated (Gagliano et al.

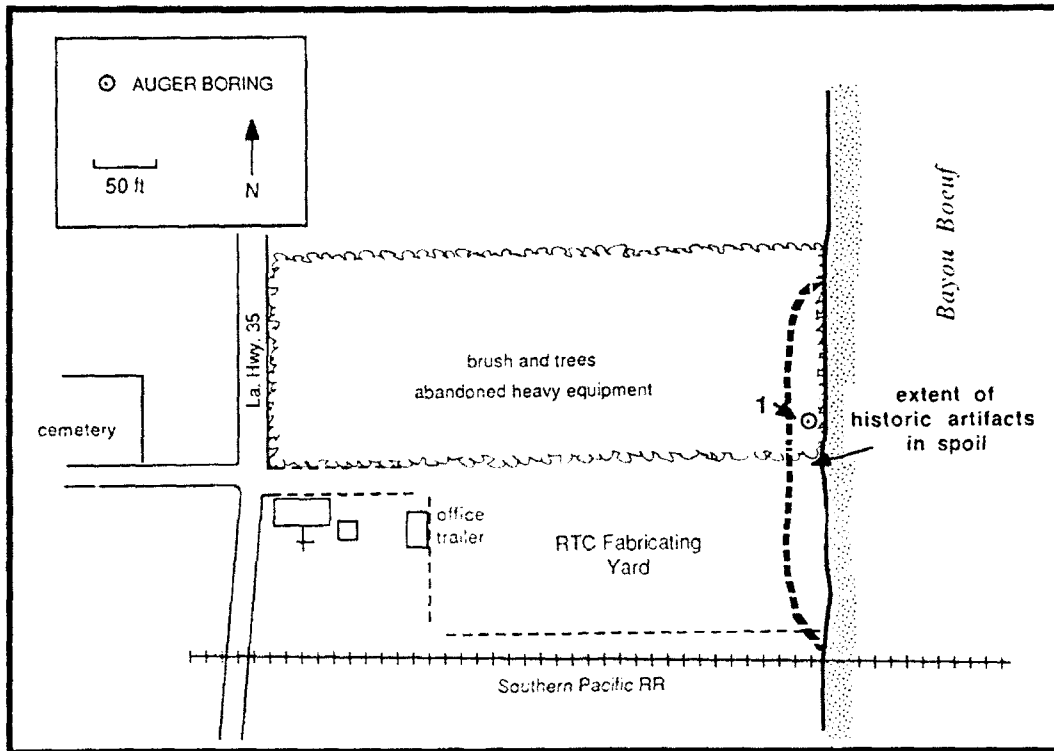


Figure 5-30. Sketch map of Bayou Boeuf Spoil site (16 SMY 145), showing extent of artifacts in the bankline spoil deposits and location of the auger boring placed down through these deposits.

Table 5-4. Historic Artifacts from the Surface Collection at Site 16 SMY 145.

ARTIFACT TYPE	CATEGORY	DESCRIPTION	NUMBER
Ceramic	Whiteware	Annular	1
	Stoneware	Gray salt glazed	1
Glass	Opaque	White	1
	Clear	Tumbler base	1

1975:143). Based on this, a Coles Creek period occupation was suggested, although more will be said concerning this sherd shortly. Gagliano et al. (1975:143) further listed the site as potentially eligible for the National Register, and recommended limited testing to determine site significance. The only other known mention of this site can be found in Weinstein and Gagliano (1985:Fig. 9), in which it is illustrated as a Coles Creek period initial occupation locale.

According to Smith et al. (1986:Pl. 42), the site is on land within the filled channel of an unnamed distributary emanating from a sharp bend in the Bayou Black distributary. The latter is a moderate-size crevasse channel that left the trunk channel of the Teche-Mississippi about 3 mi southwest of present-day Gibson, Louisiana.

Present Description

Since last visited, site 16 TR 84 has undergone significant change, mostly due, no doubt, to the widening and deepening of Bayou Black as part of the Chene-Boeuf-Black channelization project. As can be seen by the compass and tape map (Figure 5-31), the camp which once occupied the site is gone, leaving behind a jumbled scatter of historic trash, including numerous 55-gal drums, two refrigerators, bedsprings, etc. The midden, too, is apparently gone, now marked only by scattered artifacts and shell atop the bank, and one concentrated area of shell and associated midden debris. No evidence of a shell lens could be seen in the bankline profile, and none of the six auger borings (see Figure 5-1), nor any of the numerous probes (locations not illustrated) placed along the bank, encountered a buried shell lens.

A typical auger boring, that at the E00 point, yielded the following: 0 to -0.6 ft, very dark grayish-brown (2.5Y 3/2) silt, with *Rangia* fragments and charcoal; -0.6 to -1.8 ft, very dark-grayish brown (10YR 3/2) clayey silt, with brick fragments; -1.8 to -3.5 ft, dark gray (2.5YR 4/0) silt, with some organics; and -3.5 to -5.0 ft, dark gray (2.5Y 4/0) clay, with some organics. The upper two strata are interpreted as possible spoil or disturbed natural levee, while the lower two strata are undisturbed natural levee deposits. The break between the disturbed upper strata and the undisturbed lower strata occurred consistently in each auger boring at between -1.0 and -1.8 ft. This would seem to mark the depth at which the original shell lens also was noted, suggesting that the midden rested atop the undisturbed natural levee deposits.

Once it was recognized that the shell lens no longer was present, a systematic surface collection was carried out in an effort to gain as much data as possible. Artifacts were grouped by 30-ft-long units corresponding to the areas between each auger boring. Selected examples of aboriginal ceramics collected during this project are illustrated in Figure 5-32. The aboriginal ceramics are presented in Table 5-5 and the historic material is presented in Table 5-6. Clearly, the most prominent aboriginal occupation occurred during very late Coles Creek times, during the interval when Coles Creek culture was transforming into Plaquemine culture, the so-called "transitional Coles Creek." Ceramic markers include *Hardy* (see Figure 5-32, A), *Manchac* (see Figure 5-32, B), *Plaquemine* (see Figure 5-23, C-D), and probably the *Little River* variety of Baytown Plain (see Figure 5-32, E-F). In the latter group, several sherds exhibit the finely tapered "Vicksburg rim," so diagnostic of late Coles Creek elsewhere in the Lower Valley (see Phillips 1970:57; Williams and Brain 1983:103-105). It is possible that the *Rhinehart* sherd (see Figure 5-32, G) also belongs to this component, although it may signify a slightly earlier Coles Creek occupation.

A somewhat less intense occupation, which also appears to be spatially confined to the surface shell concentration, is that of the late Mississippi period. Identifying ceramics include Barton Incised and Mississippi Plain. In addition, a reanalysis of the original CEI collection obtained in 1975, shows that the sherd then classified as *Rhinehart Punctated* actually is Owens Punctated, var. *McIlhenny*. (The other 1975 ceramics include two rims and 38 body sherds of Baytown Plain, var. *unspecified*, which add little to the present cultural interpretation.)

The historic material collected (see Table 5-6) is representative of a late-nineteenth-through mid-twentieth-century house site. Since a camp existed at the locale in the 1970s, it can be assumed, as well, that some of the material is related to that occupation.

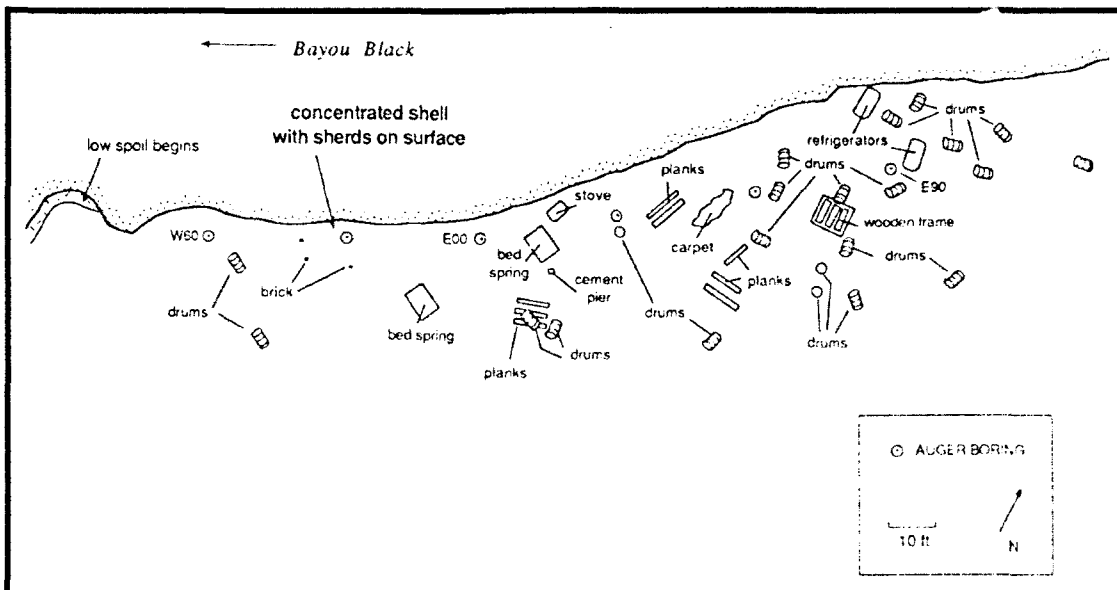


Figure 5-31. Sketch map of the Bayou Black-GIWW site (16 TR 84), showing scatter of historic debris, surface shell concentration, and auger boring locations.

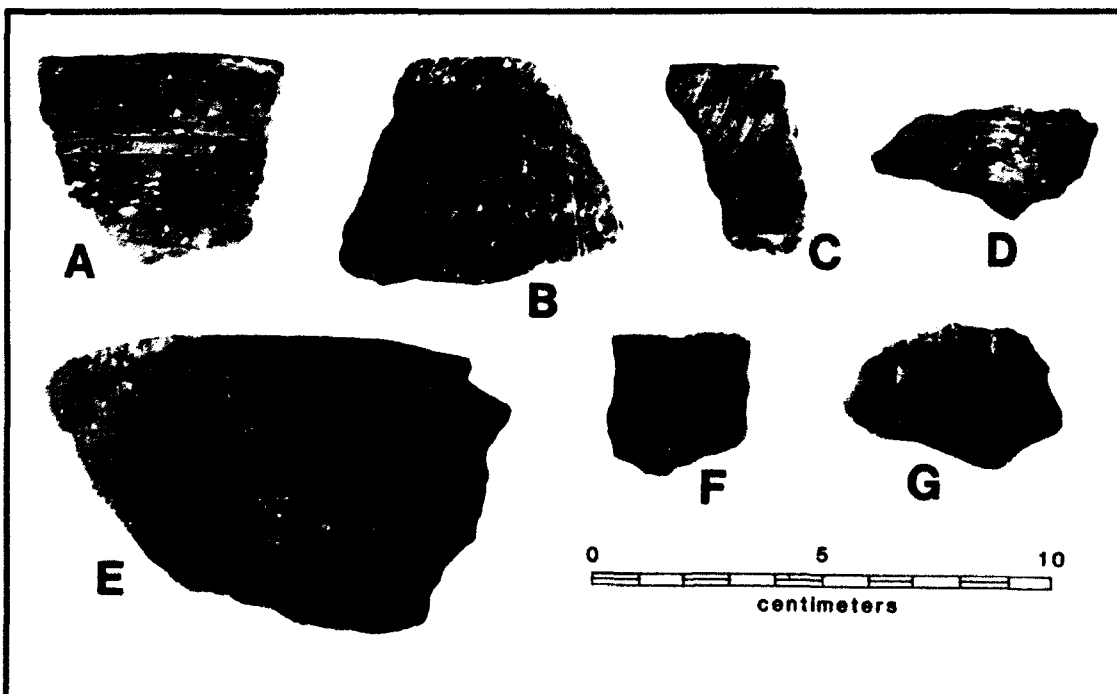


Figure 5-32. Aboriginal ceramics from Bayou Black-GIWW (16 TR 84). A) Coles Creek Incised, var. *Hardy*; B) Mazique Incised, var. *Manchac*; C-D) Plaquemine Brushed, var. *Plaquemine*; E-F) Baytown Plain, var. *Little River*; (Vicksburg rim mode); G) Evansville Punctated, var. *Rhinehart*. (All from CEI collection.)

Table 5-5. Aboriginal Ceramics Obtained During the Systematic Surface Collection at the Bayou Black-GIWW Site (16 TR 84).

CERAMICS	W90-W60		W60-W30		W30-E00		E00-E30		E30-E60		E60-E90		TOTAL	% TOTAL	% DEC.
	RIM	BODY	RIM	BODY	RIM	BODY	RIM	BODY	RIM	BODY	RIM	BODY			
Barton Incised <i>var. unspecified</i>	0	0	0	1	0	0	0	0	0	0	0	0	1	1.1	14.3
Barton Plain <i>var. Little Rivert</i>	0	0	5	2	1	1	1	1	0	0	0	0	11	11.6	--
<i>var. unspecified</i>	0	2	1	40	0	6	1	10	1	3	0	3	72	75.8	--
Coles Creek Incised <i>var. Hardy</i>	0	0	1	0	0	0	0	0	0	0	0	0	1	1.1	14.3
Evansville Punctated <i>var. Rhinehart</i>	0	0	0	0	0	0	0	1	0	0	0	0	1	1.1	14.3
Mazique Incised <i>var. Manchac</i>	0	0	0	0	0	0	0	0	1	0	0	0	1	1.1	14.3
Mississippi Plain <i>var. unspecified</i>	0	0	0	5	0	0	0	0	0	0	0	0	5	5.3	--
Plaquemine Brushed <i>var. Plaquemine</i>	1	0	0	1	0	0	0	0	0	0	0	0	2	2.1	28.6
Unclassified punctated on Baytown paste	0	0	0	1	0	0	0	0	0	0	0	0	1	1.1	14.3
Total	1	2	7	50	1	7	2	12	2	8	0	3	95	100.3	100.1

Table 5-6. Historic Artifacts Obtained During the Systematic Surface Collection at the Bayou Black-GIWW Site (16 TR 84).

ARTIFACT TYPE	CATEGORY	DESCRIPTION	W90-W60	W60-W30	W30-E00	E00-E30	E30-E60	E60-E90	Total	% Total
Ceramic	Porcelain	Undecorated	0	0	0	1	0	0	1	3.2
	Rodware	Flower pot	0	0	0	0	0	1	1	3.2
	Stoneware	Alkaline glaze, brown	0	1	0	0	0	0	1	3.2
		Undecorated glaze, tan	0	2	0	0	0	0	2	6.5
	Whiteware	Undecorated	0	1	3	0	1	0	5	16.1
Glass	Clear	Automatic bottle machine-made bottle, embossed: "NATIONAL REMEDY COMPANY/NEW YORK"	0	0	1	0	0	0	1	3.2
		Flat glass	0	1	0	2	0	0	3	9.7
		Undecorated	0	3	0	1	1	0	5	16.1
	Amber	Automatic bottle machine-made bottle, embossed: "WHITEHALL"	0	0	1	0	0	0	1	3.2
		Base, embossed: "PATD AUG 24/1886/11"	0	1	0	0	0	0	1	3.2
Metal	Green	Undecorated	0	5	0	0	2	0	7	22.6
	Dark green	Bottle base with improved pontil	1	0	0	0	0	0	1	3.2
	Copper	Penny	0	0	1	0	0	0	1	3.2
	—	—	0	1	0	0	0	0	1	3.2
	Mortar	—	0	1	0	0	0	0	1	3.2
Total			1	15	6	4	4	1	31	99.8

Comments and Recommendations

The aboriginal component at the Bayou Black-GIWW site today is represented by nothing more than the scattered remains of what apparently was only a thin and not-very-extensive shell midden. The midden was created primarily by a transitional Coles Creek occupation, dating between about A.D. 1000 and 1200, and a later Mississippi period occupation, probably dating sometime between approximately A.D. 1500 and 1700. This was followed by a historic occupation dating sometime between the late 1800s and the 1970s.

The site most likely served simply as a small-scale hunting and shellfish-collecting station during prehistoric times. It may also have been associated with the large Gibson Mound site (16 TR 5), located on Bayou Black about 6 mi to the northeast. During historic times it was the locus of a house or camp, the inhabitants of which again were chiefly concerned with the exploitation of the area's fish and wildlife. Whatever the site's true function may have been, one thing is clear at present; it is not eligible for inclusion in the National Register.

GIWW-HOUMA SOUTH (16 TR 87)

Location and Previous Description

This site was located by Weinstein and Burden during CEI's survey of the GIWW in April 1975. At that time it was described as an 8-in-thick lens of *Rangia* and oyster shell in a black clay matrix, stretching for about 10 ft along the bank and capped by spoil deposits. It was reportedly situated about 1.0 mi south of the Bonvillain Canal, along the east bank of the GIWW. No artifacts were seen, but aerial photographs showed that the site probably was associated with a relict distributary channel (LDA site form; Gagliano et al. 1975:144). Smith et al. (1986:Pl. 44) identify this channel as a Lafourche distributary which most likely emanated from Bayou du Large. Gagliano et al. (1975:64, 144) suggested that the site was moderately important and should be tested to determine National Register significance.

Present Description

Prior to the present revisit, the original aerial photographs utilized in 1975 during the GIWW survey were reexamined. The site location shown on these photographs indicates that the locale actually was 2,800 ft south of the Bonvillain Canal, and not "about 1 mile" as reported (Gagliano et al. 1975:144). Thus, this is the area which was investigated first during the present study.

No sign of site 16 TR 87 could be found, only a very low, eroded bank with a few scattered *Rangia* and oyster shells. The spoil deposit in the area was gone, along with the shell lens. The few *Rangia* seen appeared modern, and not from a midden deposit.

In an effort to locate any possible remains of the site, the bankline survey coverage was expanded north to the Bonvillain Canal and south to the location noted on the site form. Again, however, no evidence of a site could be found.

Comments and Recommendations

It is clear that this site no longer exists, and that erosion along the GIWW has been the chief cause of its destruction. Obviously, the site is not eligible for the National Register. Unfortunately, its cultural affiliation must remain unknown.

Reconnaissance Survey

As noted, three general areas were subjected to reconnaissance-level surveys related to possible impacts resulting from the barrier alternatives: (1) ring levees around present industrial complexes along Bayou Boeuf, (2) selected locales on Avoca Island slated for industry relocation, and (3) the south bank of the GIWW from its junction with Bayou Chene eastward to the natural levee of Bayou du Large, along which the actual barrier levee would be built. Each survey area will be discussed separately below, including any newly recorded sites related to each.

Ring Levees Along Bayou Boeuf

The reconnaissance survey of the proposed ring levee alignments around the industrial complexes along Bayou Boeuf was intended to examine areas not previously surveyed in the GIWW (Gagliano et al. 1975) or U.S. 90 (Weinstein et al. 1978) projects. One day was spent examining relatively undisturbed portions of the relict Teche-Mississippi natural levee on foot, and a second day was devoted to boat survey along Bayou Boeuf. The pedestrian survey focused on wooded areas north of Bayou Boeuf in Sections 44 and 46 of T16S, R13E. No evidence of prehistoric or historic sites was encountered in any of these locales. The boat survey was also unsuccessful in locating new sites, due primarily to the fact that most of the bankline in this area has now been bulkheaded. Additional information was obtained on one site, Bayou Caroline (16 AS 36), and this is presented below.

BAYOU CAROLINE (16 AS 36)

Location and Previous Description

This site was originally reported by CEI in 1977 during the U.S. 90 survey (Weinstein et al. 1978:72-73). Informants told the field crew that two mounds made of earth and shells were once located on the south side of Bayou Caroline at its junction with Bayou Boeuf. The mounds were destroyed in the early 1960s when Bayou Caroline was dredged to provide a slip for the McDermott Construction Company. The site was not examined at that time as it lay outside of the proposed highway alignment.

Present Description

The McDermott Construction Company offices are situated on the north side of the slip which now occupies the site's reported location, and the company's fabrication yards lie to the south of it (Figure 5-33). The south bank of the slip is covered by a bulkhead, but a portion of the north bank is still exposed. Three discontinuous lenses of *Rangia* shells were exposed in the bankline from the ground surface to the waterline over a distance of approximately 60 ft. The upper two lenses produced both prehistoric and recent historic artifacts, but the lowest lens seemed to contain only prehistoric material, suggesting that it might be intact. Due to the limited space available for subsurface testing only two auger borings were excavated at the site, both about 5 ft back from the bankline. Boring No. 1, located near the west end of the shell lenses, revealed the following stratigraphic sequence: 0-12 in, brown (10YR 5/3) clayey silt with *Rangia* shells; 12-26 in, dark brown (10YR 3/3) silt; 26-40 in, gray (10YR 5/1) sandy clay; 40-54 in, brown (10YR 5/3) sandy clay. Boring No. 2, placed near the eastern end of the shell lenses, encountered the following strata: 0-12 in, brown (10YR 5/3) clayey silt with *Rangia* shells; 12-28 in, brown (10YR 5/3) sand; 28-42 in, very pale brown (10YR 7/4) sand; 42-48 in, gray (10YR 5/1) sand. The absence of shell from the lower strata of both borings indicates that the shell lenses noted in the bankline are of very limited extent. Further, the presence of significant quantities of sand in these strata and the marked color differences between them suggest that all of them represent spoil dredged from the bayou. If intact

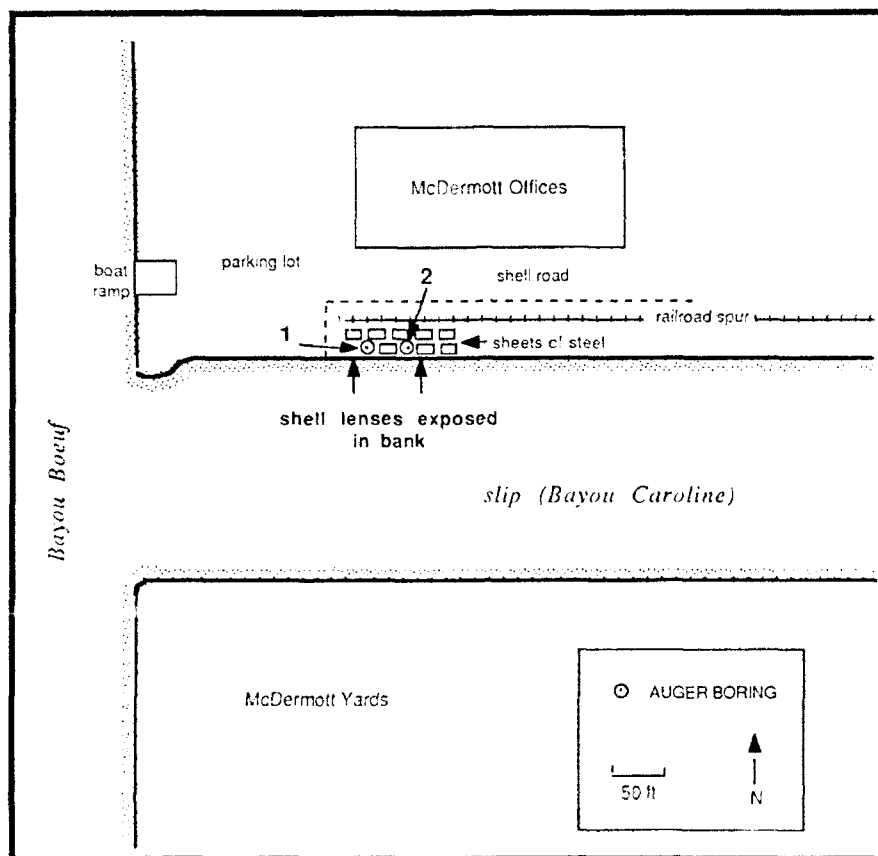


Figure 5-33. Sketch map of the Bayou Caroline site (16 AS 36), showing auger boring locations and area of exposed lenses in the bank of the former bayou.

deposits remain at the site, which seems doubtful, they are now deeply buried beneath spoil and covered by buildings and construction equipment.

Despite the inability to locate in situ deposits at the site, the artifacts obtained from the bank of the slip represent the first collection reported from the site (Table 5-7). The collection is small, but it provides evidence of several periods of occupation at the site. The earliest of these is a possible Tchefuncte component represented by a sherd of what may be Tchefuncte Plain. This is followed by an early to middle Coles Creek period occupation evidenced by the sherds of Evansville Punctated, *var. Rhinehart* and Pontchartrain Check Stamped, *var. Pontchartrain*. The final aboriginal occupation is a transitional Coles Creek or Plaquemine component based on the sherds of Chevalier Stamped, *var. Perry*, Mazique Incised, *var. Manchac*, and Plaquemine Brushed, *var. Plaquemine*.

Comments and Recommendations

Dredging of the mouth of Bayou Caroline and subsequent construction of the McDermott fabrication plant have apparently destroyed the Bayou Caroline Mounds. Although the site is not considered eligible for the National Register of Historic Places, the collection obtained during the present project has provided additional information on the distribution of aboriginal occupations in the area. This locality may have been occupied as early as the Tchula

Table 5-7. Ceramic Counts and Percentages for the Bayou Caroline Site (16 AS 36).

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	0	13	13	61.9	—
Chevalier Stamped <i>var. Perry</i>	1	0	1	4.8	14.3
Evansville Punctated <i>var. Rhinehart</i>	1	0	1	4.8	14.3
Mazique Incised <i>var. Manchac</i>	1	0	1	4.8	14.3
Plaquemine Brushed <i>var. Plaquemine</i>	0	1	1	4.8	14.3
Pontchartrain Check Stamped <i>var. Pontchartrain</i>	0	2	2	9.6	28.6
Tchefuncte Plain (?) <i>var. Tchefuncte</i>	0	1	1	4.8	--
Unclassified Incised on Baytown paste	0	1	1	4.8	14.3
Total	3	18	21	100.3	100.0

period (ca. 500 B.C. to A.D. 1), but it was certainly inhabited by the early to middle Coles Creek period (ca. A.D. 700 to 1000) and continued to be utilized during the transitional Coles Creek or early Mississippi periods (ca. A.D. 1000 to 1400).

Presently, it is impossible to determine whether the reported mounds were intentionally made structures, or simply large, mixed-earth-and-shell middens, such as those at the Bayou Chene site (16 SMY 20). Given the fact that neither Cathcart nor Landreth discussed mounds along this stretch of Bayou Boeuf, it seems likely that the latter possibility was the case. However, if the mounds were true tumuli, then it seems probable that they were associated with one of the later components at the site.

Industry Relocation Areas on Avoca Island

The reconnaissance survey of the proposed industry relocation areas on Avoca Island was conducted over a span of two days and included both pedestrian and boat survey. The pedestrian survey made use of historic maps, particularly a Civil War-era map (see Figure 3-3), and examined areas on the northern half of the island that were formerly the location of a series of plantations. Boat survey was conducted along the south bank of Bayou Boeuf during the course of revisits to sites 16 SMY 125 through 129. Six new sites, one prehistoric and the

remainder historic, were recorded during the surveys, and additional information was obtained on a previously recorded site, 16 SMY 53. These sites are described below.

NEW SITE (16 SMY 53)

Location and Previous Description

This site is located on the east bank of Bayou Shaffer about 1.5 mi south of its junction with Bayou Boeuf. It was first reported by USL as a small *Rangia* shell midden which had been almost entirely destroyed by erosion (Gibson 1978b:162-163). Their collection from the site consisted of a small quantity of aboriginal pottery, including one sherd of Mazique Incised var. *Mazique*; a few historic artifacts, including two sherds of whiteware and two pieces of bottle glass; and four bone fragments. Two in situ shell lenses were noted at the site, but they were of such limited extent (less than 6 ft in length) that the site was not considered significant.

Present Description

During the present project one of the field crews was informed of the existence of a historic cemetery in this area. Following the directions of the informant, three graves were found near the bank of Bayou Shaffer in the approximate location of 16 SMY 53. Although no shell lenses were noted by the surveyors, they reached the site by land rather than by water and therefore could not adequately examine the bankline. A plan view of the arrangement of the three graves is shown in Figure 5-34. The two northernmost graves were semi-subterranean brick vaults, the eastern one covered with cement. Neither of these bore any indication of the identity of the deceased. The third grave consisted of a semi-subterranean concrete vault. One side of the vault had been broken, and a wooden coffin was visible inside it. Lying on top of the vault was a headstone which bore the image of a dove and the following inscription:

In Memory of Mrs. L. C. Berry
Born ____ 15, 1861
Died ____ 20, 1900
Age 38 years, 10 months, 5 days
Gone But Not Forgotten

Two bricks were present in the bank of Bayou Shaffer west of the graves, and a concrete slab was located in the bayou approximately 25 ft further north, suggesting that other graves may have already eroded into the channel. Subsequent conversations with Mrs. George Picou, wife of the property manager for Avoca, Inc., revealed that the graves were part of a family cemetery located on what was known as the Smith property, a small tract of land separate from Avoca Plantation. According to Mrs. Picou, the heirs of the family were given the option of having the graves moved during the construction of the Avoca Island levee, but they decided against it.

Comments and Recommendations

The historic graves located in the area of site 16 SMY 53 do not represent a significant archeological resource, but they are protected by state law. It is unfortunate that the heirs of the deceased chose not to have the graves moved to a more secure location, for within a few years they will be destroyed by the bayou.

AVOCA ISLAND #1 (16 SMY 178)

Location and Description

This site is located on the north bank of Avoca Island, about 0.15 mi upstream from site 16 SMY 125 and 0.2 mi downstream from site 16 SMY 127. It consists of a

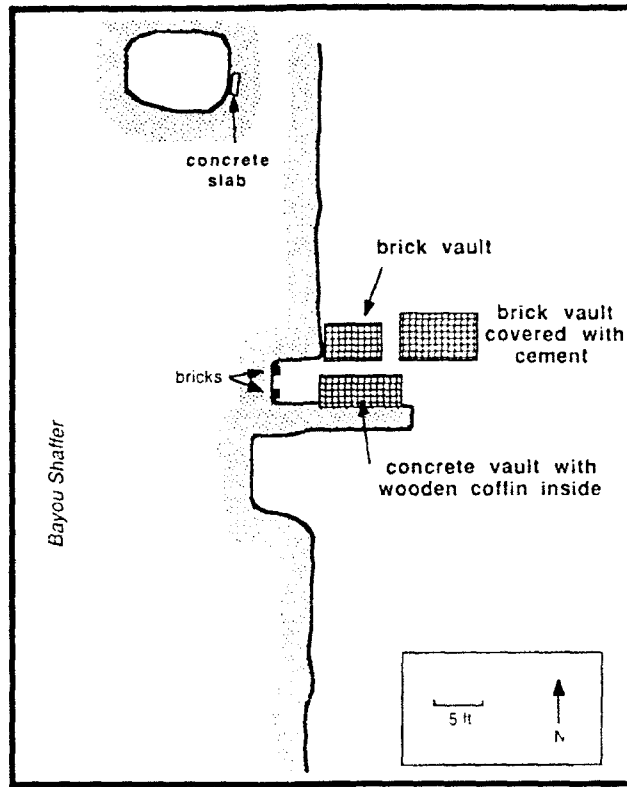


Figure 5-34. Sketch map of historic cemetery at the location of the previously reported New Site (16 SMY 53).

wave-washed *Rangia* beach deposit, about 100 ft long, within a small cove cut into the bank of Avoca Island by Bayou Boeuf (Figure 5-35). A portion of the old levee believed to be built by the Pharr family during their drainage project in the 1890s and first two decades of the twentieth century, lies immediately landward of the shell beach. The levee is about 3.5 to 4 ft high and measures about 10 ft in width. A borrow pit for the levee is just to the west.

The shell beach deposit produced a moderate quantity of both prehistoric and historic artifacts, including a significant quantity of bricks and brick fragments. In fact, one concentration of bricks was noted above the beach deposit at the north end of the cove, and may represent the remains of a house pier. It is likely that the other bricks at the site also came from similar structural footings. A search of the borrow pit and area to the west failed to locate any additional concentrations of artifacts, although a few brick fragments were seen in the borrow pit. Probing with a 6-ft-long iron rod, both through the shell beach and on the land to the west, failed to encounter any features or buried shell midden.

Aboriginal ceramics from the site are presented in Table 5-8, while historic material is listed in Table 5-9. The aboriginal material may represent two components, one each of the early and late Mississippi period. The former is marked by the Baytown Plain and *Manchac* sherds, the latter of which is illustrated in Figure 5-36, and indicates an early Plaquemine occupation. The latter is represented by the three Mississippi Plain sherds, two of which have relatively fine shell tempering approaching that of Bell Plain. These may be indicative of a Mississippian cultural occupation, as no late Plaquemine ceramics were found, although the

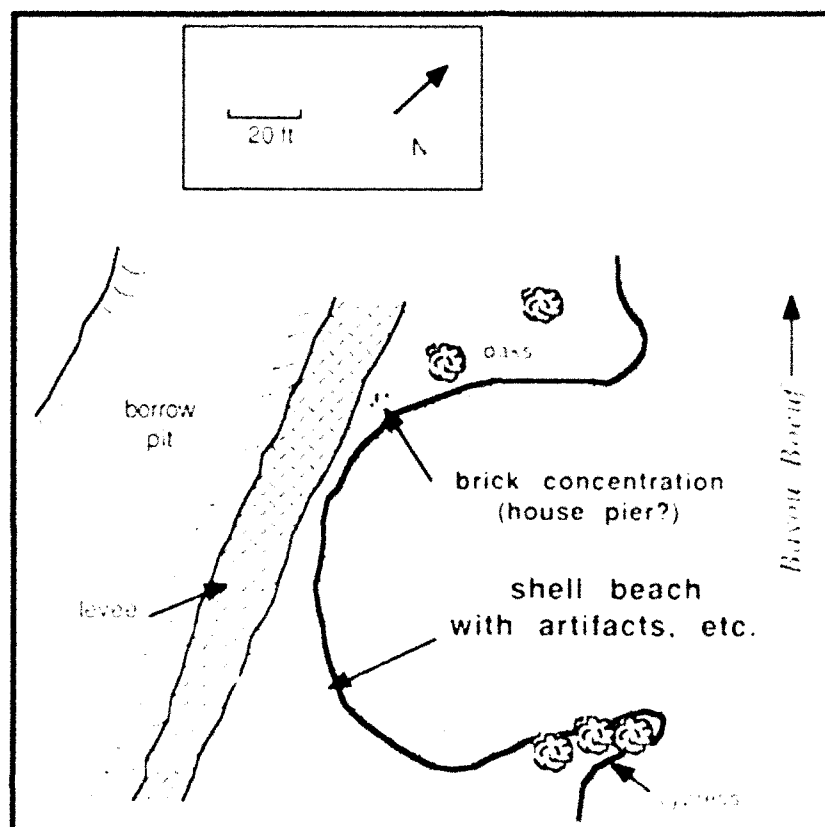


Figure 5-35. Sketch map of the Avoca Island #1 site (16 SMY 178), showing extent of shell beach and possible house pier location.

sample is small and such a possibility seems unlikely. Rather, they may actually represent the remains of trade vessels in a late Plaquemine occupation, the ceramics of which were not found.

The historic material (see Table 5-9) predominantly indicates household debris spanning the period between about 1840 to 1900, suggesting that occupation of the area ceased when the levee was constructed. Of particular interest is the fact that most of the ceramics consist of shell-edged, transfer-printed, and hand-painted whitewares. These types were manufactured primarily between 1830 and 1860, suggesting that that was the principal period of occupation.

Based on that assumption, it is reasonable to look at the historical information currently available (see Chapter 3). Although originally claimed by Robert Martin as part of his land speculation scheme, this section of Avoca Island probably was not occupied until the late 1840s or early 1850s, as no landowner is shown on the La Tourette map of 1846 (see Figure 3-8) and it is not until 1853-'54 that any sugar records are recorded for Henry Laurance whose plantation was on the property (Champomier 1854:35). A review of the 1864 Confederate States map of St. Mary Parish (see Figure 3-3) indicates further that the buildings for Laurance's plantation, including the big house, sugarmill, and quarters, were in the general location, if not the actual location, of 16 SMY 178. Given that the artifacts collected clearly

Table 5-8. Aboriginal Ceramic Counts and Percentages for the Avoca Island #1 Site (16 SMY 178), General Surface Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	1	16	17	81.0	--
Mazique Incised <i>var. Manchac</i>	1	0	1	4.8	100.0
Mississippi Plain <i>var. unspecified</i>	0	3	3	14.3	--
Total	2	19	21	100.1	100.0

Table 5-9. Historic Artifacts from the Surface of the Avoca Island #1 Site (16 SMY 178).

TYPE	CATEGORY	DESCRIPTION	NUMBER
Brick		Red	1
Metal		Eye bolt	1
Glass	Clear	Goblet stem	1
		Lipping-tooled lip	1
	Dark green		9
	Amber		1
	Dark green	Embossed: "LONE/STAR"	1
Leather		Unidentified	1
Coal			3
Slag			1
Ceramic	Redware	Black lead glaze	1
	Whiteware	Annular	2
		Blue shell edge	3
		Green shell edge	1
		Red transfer printed	2
		Polychrome hand painted	4
		Blue hand painted	1
		Blue transfer printed	1
		Unidentified brown edged	1
		Undecorated	12
	Semiporcelain	Undecorated	1
	Stoneware	Gray salt glazed	3
		Brown alkaline glaze	2
		Unglazed orange	2
Brick		Fragments	4
Total			60

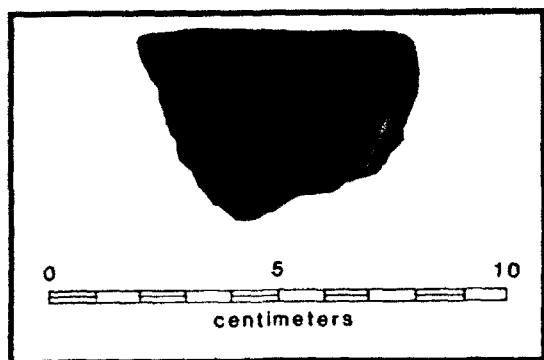


Figure 5-36. Rim sherd of Mazique Incised, var. *Manchac* from Avoca Island #1 (16 SMY 178) (CEI collection).

indicate residential debris, and not mill remains, it is likely that the site represents the material from a portion of either the quarters area or big house complex.

Comments and Recommendations

This site contains three principal components: early Mississippi (ca. A.D. 1200 to 1350), late Mississippi (ca. A.D. 1500 to 1700), and, based on the historic ceramics and archival data, a historic occupation from ca. 1850 to 1900. Although the present size of the site is fairly small, being limited by the levee to the west and the wave-washed shell beach within the cove to the east, it should be recognized that other features, most likely represented by structural remains and domestic activities, may be situated farther west of the levee in areas not investigated during the present study. Thus, the site may be considered potentially eligible for the National Register, pending further survey and testing in the vicinity.

PEL-TEX DOCK (16 SMY 179)

Location and Description

This site consists of nothing more than two large spoil piles of dredge material removed from Bayou Boeuf to deepen the bayou to allow boat access to a newly constructed dock built by the Pel-Tex Corporation on the north bank of Avoca Island (Figure 5-37). The spoil piles contained a moderate amount of historic artifacts, along with one prehistoric sherd. These artifacts obviously represent material that had been dumped or eroded into Bayou Boeuf. The site is located about 0.2 mi upstream from the former location of 16 SMY 128 and approximately 0.3 mi downstream from site 16 SMY 126.

Almost the entire length of the Bayou Boeuf bankline has been covered with rip rap in the location of the spoil piles, making it extremely difficult to determine if any intact midden or features are present. Only one short stretch of bank near the southern spoil pile, and the bank adjacent to the woods at the north end of the site were not covered (see Figure 5-37). Neither indicated the presence of cultural remains.

Two auger borings were drilled adjacent to the bank in an additional effort to locate buried cultural material (see Figure 5-37). Only the southern boring uncovered brick fragments within obvious spoil deposits or fill, composed of grayish brown (10YR 5/2) silt, between the surface and -2.2 ft. Below that was very dark grayish brown (10YR 3/2) natural levee, consisting of oxidized silty clay to a depth of at least 4.0 ft. At that point the boring was terminated.

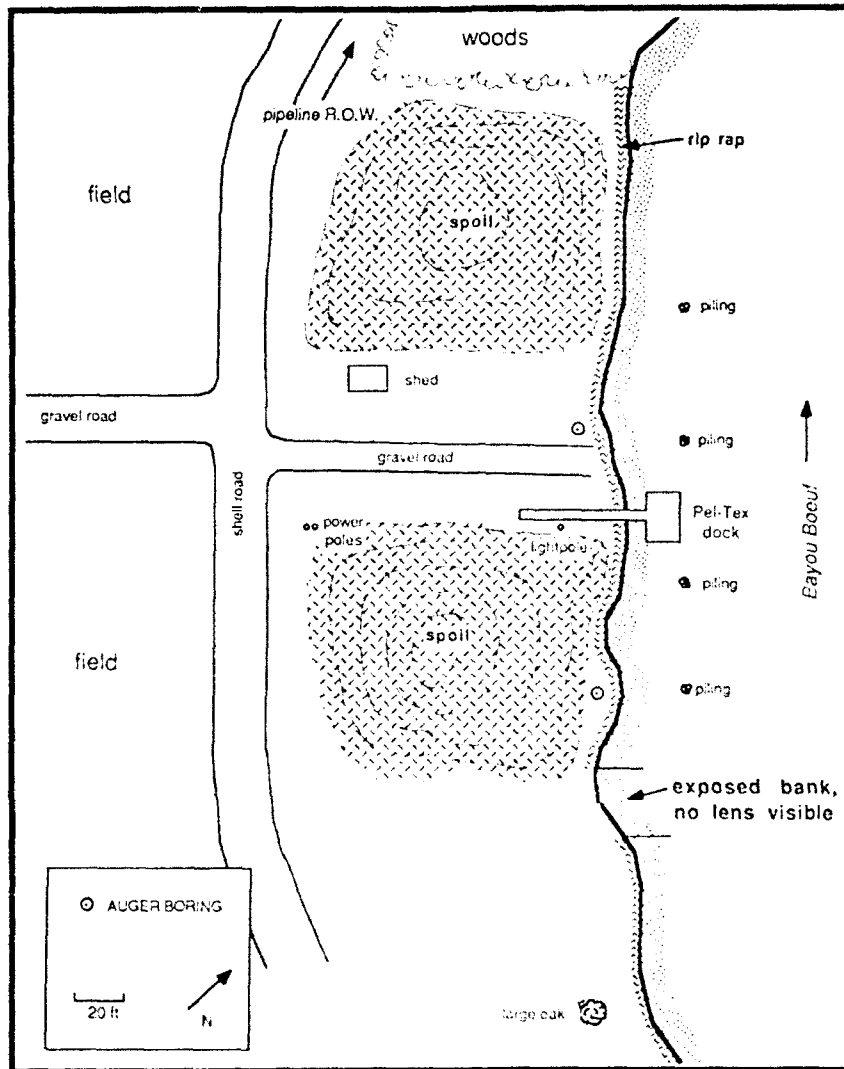


Figure 5-37. Sketch map of the Pel-Tex Dock site (16 SMY 179), showing large spoil piles and location of auger borings placed down at the locale.

The site is in the general location of the early-nineteenth-century settlement of John Henry and Alexander Grosure, as reported by both Cathcart and Landreth (Prichard et al. 1945:791; Newton 1985:64), and reviewed earlier in Chapter 3. For that reason, it was thought that some of the artifacts from the site might represent this relatively early historic occupation. Unfortunately, such was not the case.

Table 5-10 provides a list of the recovered historic material. Most, if not all, dates to the early twentieth century, is typical of residential debris, and can probably be related to several buildings noted on Aleda Plantation property during the early 1900s. This plantation was purchased in 1892 by John Pharr, and remained in the Pharr family until 1928 when purchased by Avoca, Inc. The houses continued in this location following acquisition by Avoca, Inc., throughout the 1930s, as evidenced on the 1935 Morgan City, 15-min quadrangle

Table 5-10. Historic Artifacts from the Surface of the Spoil Piles at Site 16 SMY 179.

TYPE	CATEGORY	DESCRIPTION	NUMBER	
Ceramic	Semiporcelain	Undecorated	2	
	Whiteware	Undecorated	31	
	Stoneware	Blue sponge	1	
		Blue glazed	1	
		Brown slip (alkaline?)	10	
		Gray salt glazed	4	
		Bristol glazed	1	
		Unglazed	2	
Glass	Clear	Automatic bottle machine-made bottle	1	
		Automatic bottle machine-made medicine bottle	1	
		Canning jar fragment	1	
		Automatic bottle machine made-bottle, screw top	1	
		Unidentified fragments	8	
		Lipping-tooled lip	2	
		embossed: "...WORKS..."	1	
		Unidentified	5	
		Lipping-tooled neck	1	
		Miscellaneous	6	
		Opaque	White	2
			Blue	1
		Button	Ceramic, 4-hole, blue painted	1
		Brick	Fragment	2
		Steatite	Fragment	1
	Coal	Fragment	1	
Plastic	Fragment	2		
Metal	Unidentified	1		
	Eyelet	1		
Total			91	

map (see Figure 3-11). Thus, the material recovered almost certainly came from these homes, most of which undoubtedly housed plantation workers.

The only aboriginal sherd was an *unspecified* example of Baytown Plain. It does little to identify the possible component present.

Comments and Recommendations

The dredged and displaced artifacts recovered from the spoil piles at the Pel-Tex Dock site clearly are not eligible for inclusion in the National Register. About all that can be said of the aboriginal component at the site is that it occurred sometime after the Tchula period. The historic material, on the other hand, almost certainly comes from several early-twentieth-century houses once associated with Aleda Plantation. Unfortunately, no evidence of the actual structures could be found, and it is assumed that such evidence, if any still remained, probably was destroyed during construction of the dock.

OAKLEY I (16 SMY 180)

Location and Description

This site is located on the north side of Avoca Island, ca. 1.6 mi east of the ferry landing. It lies in a cultivated field immediately south of the main shell road that crosses the island (Figure 5-38). The site consists of a scatter of brick fragments that extends over an area approximately 100 ft north to south by 50 ft east to west. Five shovel tests were excavated within the site area, and all encountered an oxidized gray (10YR 5/1) silty clay, which represents the natural levee associated with the relict Teche-Mississippi channel now occupied by Bayou Boeuf. No other artifacts were noted either on the surface or in the shovel tests.

The site apparently represents the remains of a structure or structures associated with Oakley Plantation. A Civil War-era map of this area shows a number of buildings in this vicinity on what was at that time the property of the widow of Carl Vinson (see Figure 3-3). By the late nineteenth century the plantation was owned by Congressman Chester B. Darrall, who also owned nearby Avoca Plantation. In 1901 both Oakley and Avoca Plantations were purchased by John N. Pharr and became a part of his extensive series of sugar plantations in the region. During the Pharr's ownership the building complex on Oakley Plantation was apparently shifted to the adjacent section to the east. The 1935 USCE topographic map (see Figure 3-12) shows a cluster of structures and the name "Oakland" in that area, but no buildings are present in the location of site 16 SMY 180.

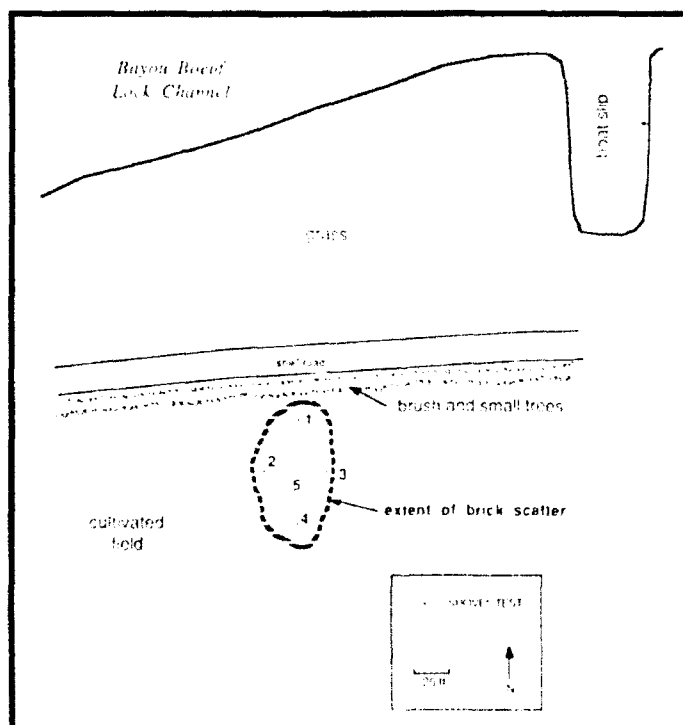


Figure 5-38. Sketch map of the Oakley I site (16 SMY 180), showing locations of shovel tests and extent of surface brick scatter.

Comments and Recommendations

The Oakley I site is interpreted as the remains of a structure or structures associated with Oakley Plantation. Map information suggests that the structure probably dated to the middle or late nineteenth century, and the absence of domestic artifacts, such as ceramics and glass, may indicate that it was a service building such as a barn or shed. Intact deposits could not be located at the site, and it is therefore not considered significant.

OAKLEY II (16 SMY 181)

Location and Description

This is a second historic site associated with the former Oakley Plantation and located approximately 0.5 mi east of the Oakley I site. It lies 400 ft north of the main shell road, on the northern edge of the natural levee associated with the relict Teche-Mississippi course now occupied by Bayou Boeuf (Figure 5-39). The elevated natural levee supports a bottomland hardwood forest, and north of it lie relict channel deposits which are presently covered by a swamp forest. A cleared pipeline right-of-way crosses the central portion of the site, and it was along this clearing that artifacts were initially noted. The material occurred on the surface over an area approximately 150 ft north to south by 125 ft east to west. Outside of the clearing the ground exposure was limited, and artifact densities were relatively low. For this reason the site was simply divided into two halves for surface collecting. The results of these collections are presented in Table 5-11.

No dateable maker's marks were present on the ceramics, but the annular whiteware and the red transfer-printed whiteware were both manufactured predominantly between 1830 and 1860 (Lofstrom 1976). The overglaze transfer-printed whiteware dates somewhat later, possibly in the early twentieth century.

Four of the glass artifacts exhibited dateable manufacturing techniques. Two were bottle necks finished with a lipping tool, a technique commonly used between 1850 and 1913 (Newman 1970:74). The other two were bottle bases with improved pontil scars, which date predominantly between 1840 and 1880. Thus, the collection appears to span the period from the middle nineteenth century to the early twentieth century.

A series of seven shovel tests was excavated within the site area, four to the west of the pipeline right-of-way and three to the east of it. All of them encountered 6 to 8 in of dark brown (10YR 4/3) clayey silt overlying a mottled, very pale brown (10YR 7/3) clayey silt. Small brick fragments occurred in the upper stratum in several of the tests, but no intact midden deposits or features were located.

During the middle nineteenth century the land on which the site is located was owned by Dr. John A. Tarleton, a native of South Carolina who at that time operated three plantations on Bayou Boeuf. The Civil War-era map of the area shows a number of structures associated with one of the plantations in the vicinity of the site (see Figure 3-3). By the late nineteenth century this property was a part of Oakley Plantation, and buildings associated with the plantation remained standing in this area as late as 1935 (USCE 1935; see Figure 3-12).

Comments and Recommendations

The site appears to represent the remains of a residential structure, possibly one of the worker's quarters, associated with Oakley Plantation. Its occupation extends from the middle nineteenth century to the early twentieth century. Although intact deposits could not be located

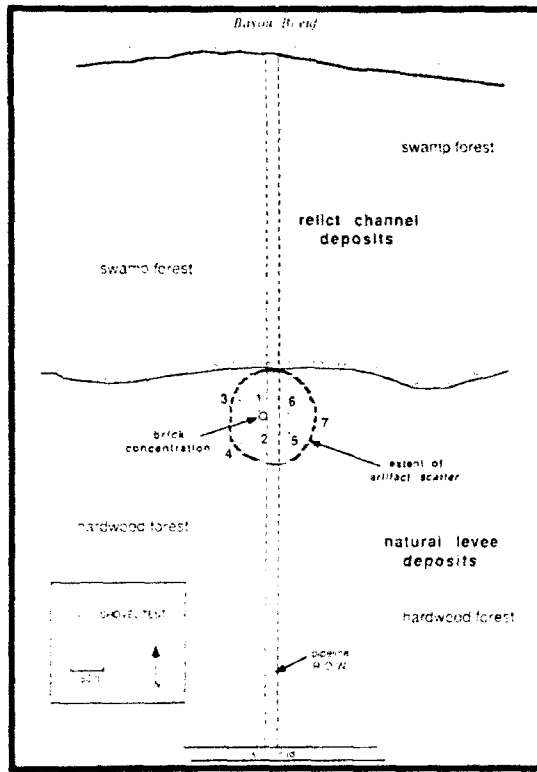


Figure 5-39. Sketch map of the Oakley II site (16 SMY 181), showing locations of shovel tests and extent of surface artifact scatter.

Table 5-11. Historic Artifacts from the Surface Collection at Site 16 SMY 181.

	ARTIFACT TYPE	CATEGORY	DESCRIPTION	NUMBER
East of Pipeline Right-of-Way	Ceramic	Whiteware	Undecorated	9
			Blue glazed	1
	Glass	Stoneware	Slip glazed	2
		Clear	Unidentified	3
			Medicine bottle w/ tooled lip	1
			Dark green	Improved pontil base
		Brick	Unidentified	1
	Fragments		2	
Total				20
West of Pipeline Right-of-Way	Ceramic	Whiteware	Annular	1
			Overglaze transfer print	1
			Red transfer print	1
	Glass	Stoneware	Brown slipped	2
		Clear	Tooled lip	1
			Improved pontil base	1
			Unidentified	1
		Total		

during the present survey, additional testing is required to adequately assess the significance of the site.

GLEN ORANGE (16 SMY 182)

Location and Description

This is a historic site located on the north side of Avoca Island, ca. 4.5 mi east of the ferry landing. It lies in a wooded area on the northeast side of the main shell road that crosses the island (Figure 5-40). The site consists of a scatter of historic ceramics, glass, and occasional brick fragments that extends over an area 450 ft northwest to southeast by 400 ft northeast to southwest. This area has recently been cleared and leveled slightly to permit construction of a steel storage building. Although the central portion of the site has been impacted by the construction, the eastern and southern portions appear to be largely intact.

Four shovel tests were excavated within the site area, three along its eastern edge and one in the southern portion. All of them encountered 3 to 4 in of dark brown (10YR 4/3) humus overlying a mottled, very pale brown (10YR 7/3), clayey silt. The latter represents the natural levee associated with the relict channel now occupied by Bayou Boeuf. Shovel Test No. 2 yielded historic artifacts to a depth of 6 in, while in Shovel Test No. 4 they continued to 8 in below the surface.

Table 5-12 lists the artifacts recovered from the site. No dateable marks were present on the ceramics, but the blue shell edged whiteware and the blue transfer-printed whiteware were manufactured predominantly between 1830 and 1860 (Lofstrom 1976). One of the glass artifacts, a bottle neck finished with a lipping tool, probably dates between 1850 and 1913 (Newman 1970:74). In general, the collection appears to range in age from the middle nineteenth century to the early twentieth century.

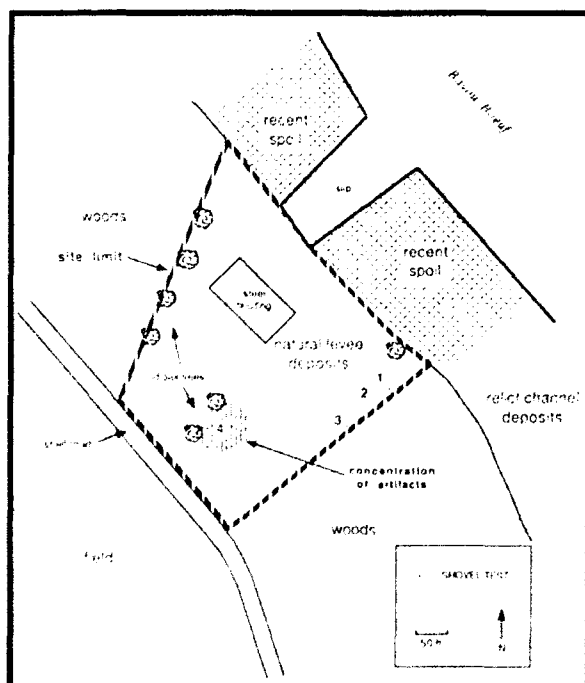


Figure 5-40.

Tape and compass map of the Glen Orange site (16 SMY 182), showing the locations of shovel tests, artifact concentration, and the approximate limits of surface material.

Table 5-12. Historic Artifacts Recovered from Site 16 SMY 182.

ARTIFACT TYPE	CATEGORY	DESCRIPTION	NUMBER
Ceramic	Whiteware	Undecorated	28
		Undecorated, stamped mark: "K & .../ ...EM ENGLA.../TRADEMARK"	1
		Blue shell edge	2
		Blue transfer print	1
	Porcelain	Undecorated	1
	Stoneware	Gray salt glazed with blue painting	1
	Glass	Clear	Unidentified
Tooled lip			1
Opaque		White	1
		Blue	1
Total			42

The Civil War-era map of this area shows the building complex of a plantation owned by S. J. Davis or Davies in the site location (see Figure 3-3). After the war the plantation became the property of H. H. Waggoner, and by the late nineteenth century it was known as Glen Orange. The 1935 USCE topographic map (see Figure 3-12) indicates that structures were still present at this location, and it associates the name Glenoine with them.

Comments and Recommendations

The site appears to represent the remains of structures associated with Glen Orange Plantation, which was occupied from the mid-nineteenth century to the early twentieth century. Although the center of the site has been impacted by recent construction, an intact sheet midden is present in at least two areas, and there is the potential for buried features. For these reasons the site is considered potentially eligible for the National Register of Historic Places.

AVOCA ISLAND DRAINAGE PLANT NO. 2 (16 SMY 183)

Historical Background

This is the earliest of the three massive drainage plants built on Avoca Island by J. N. Pharr and Sons, Ltd., and the only one which had not been recorded previously as an archeological site. It is located in the interior of the eastern portion of the island on what was once part of Aleda Plantation. John N. Pharr purchased the plantation in 1892 and apparently began construction of the drainage plant about two years later (Pharr n.d.:29, 34-37). Two of his sons, Henry and Eugene, oversaw the dredging of canals and the construction of levees on the plantation, and within a few years they had succeeded in draining approximately 1000 ac (Reed n.d.). After the Pharrs acquired Avoca and Oakley Plantations on the western portion of the island in 1901, the drainage project was expanded to include virtually the entire island. Two new drainage plants (No. 1 and No. 3) were built on the western and southern sides of the island, and the old Aleda Plantation drainage machine was remodeled and incorporated into the system as Drainage Plant No. 2 (Reed n.d.). As noted previously, by 1917 approximately

16,000 ac had been reclaimed. The Pharr's plans for development of the land were hampered by the collapse of the sugar market after World War I, and then brought to an end by the disastrous 1927 flood.

Location and Description

The remains of Drainage Plant No. 2 are located in the eastern portion of Avoca Island, 1.25 mi southwest of the junction of bayous Boeuf and Chene. Several canals intersect at this point, and one leads south from the plant into Bayou Chene. A tape and compass map of the site is shown in Figure 5-41, and a photograph of the densely overgrown drainage machinery is presented in Figure 5-42. As evidenced by the map this plant apparently differed in several respects from the other two on the island. First, it was not housed within a large brick or concrete building as they were. The only evidence of a structure found at Drainage Plant No. 2 was the rubble of a small brick building, probably a caretaker's shed, located a short distance east of the drainage equipment. Presumably the machinery was covered by a wooden shed or building which has now deteriorated. The drainage equipment, which rested on a stepped brick foundation, also differed from that at the other two plants. Here the steam engine turned a large wheel that was connected by a belt to a smaller wheel attached to the pumps. Although portions of the steam engine have been removed, the piston assembly which remains bears the stamp of the Birmingham Machine Foundry of Birmingham, Alabama. The pumps were built by the Lawrence Machine Company of Lawrence, Massachusetts.

Comments and Recommendations

Avoca Island Drainage Plant No. 2, although not as impressive as its two companion plants, represents the first link in the massive drainage system which the Pharrs built on Avoca Island. Its significance lies both in its relationship to the Pharr's ambitious land reclamation project and in its ability to provide information on the change in drainage technology during the 20 years between the construction of this plant and the two later plants on the island.

GIWW Between Bayou Chene and Bayou Du Large

The reconnaissance survey along the GIWW was designed to examine areas at which relict channels identified by Smith et al. (1986:Pls. 36, 42-45) had been cut by the waterway. Any sites once associated with these channels then would appear as either lenses in the bank of the GIWW or as a scatter of shell and artifacts in spoil deposits atop the bank.

A total of 15 such high-probability areas was examined by boat during two separate periods of survey. The first occurred between 7 November and 14 November 1986, and covered those high-probability locales from the Bayou du Large natural levee west to Lake Hackberry, while the second took place on 25 and 26 March 1987, and examined the high-probability areas from Lake Hackberry west to Bayou Chene.

The survey located four new sites, which are discussed individually below. Interestingly, all of the sites were found in the eastern study area, between the Sunrise Oil and Gas Field and the Bayou du Large natural levees. Also, of the four sites, only two (16 TR 196 and 197) actually could be related to relict channels noted by Smith et al. The other two consisted of wave-washed, shell beach deposits in areas not identified as high-probability locales, although they almost certainly are associated with such features. These latter two sites also were in areas that had been intensively surveyed in 1975 by Weinstein and Burden (Gagliano et al. 1975), and, at that time, had not produced any evidence of sites.

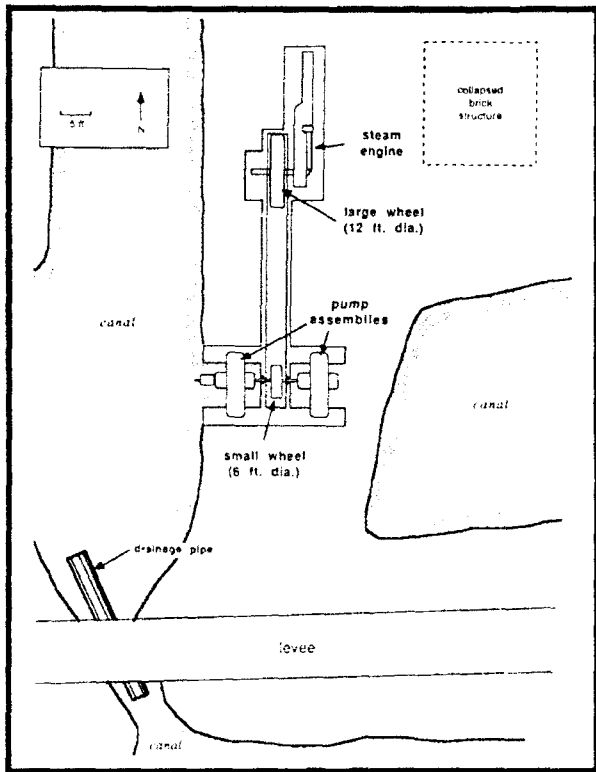


Figure 5-41.

Compass and tape map of Avoca Island Drainage Plant No. 2 (16 SMY 183), showing extent of remaining machinery.



Figure 5-42. View of the exposed pump assembly at the overgrown remains of Avoca Island Drainage Plant No. 2 (16 SMY 183). Photograph taken from levee shown in Figure 5-41. Looking to the north-northeast. Date: 11/5/86.

Based on these facts, two simple conclusions can be inferred: (1) that there are more relict channels in the region than identified by Smith et al. and (2) that a good deal of erosion has occurred along the GIWW since 1975, thus exposing and reworking sites that were not present at that time. In addition, it was noted that the banks along one stretch of the GIWW, between the western edge of the Bayou du Large natural levee (beginning about 200 ft east-northeast of site 16 TR 196) and a point about 1000 ft southwest of the former location of site 16 TR 87, were lined with jumbled and scattered *Rangia* and oyster shells that had been dredged from the waterway and deposited in spoil piles about 4 ft in height.

Except at site 16 TR 196, which is situated along a crevasse off the du Large distributary and is a likely location for a site, none of the jumbled shell deposits yielded any bone or artifactual remains, although all were carefully inspected. It appears, therefore, that the GIWW cut through an extensive natural bed of *Rangia* and oyster in this area. This may be the northern end of the shell ridge noted by McIntire (1958:72-73) which reportedly ran parallel to the western edge of the Bayou du Large natural levee, and which may have been an earlier Teche-Mississippi or Teche-Red distributary. Although Smith et al. (1986:Pls. 44, 45) show only Lafourche-age distributaries in this area, other evidence accumulated during the course of the present study and discussed later in this report, suggests that McIntire's original interpretation may have been fairly accurate.

In any event, the descriptions of the four sites located during the GIWW reconnaissance survey are provided below.

INTRACOASTAL-DU LARGE (16 TR 196)

Location and Description

This small, redeposited shell midden is located along the south bank of the GIWW about 0.8 mi west-southwest of the point where the waterway cut through the relict channel of Bayou du Large, and 0.45 mi northeast of the mouth of Bonvillain Canal. It was found during the present study while the survey crew was inspecting high-probability areas along the south bank of the GIWW.

The site itself consists simply of a wave-washed deposit of *Rangia* shell, with a few oysters, that stretches along the edge of the GIWW for only about 20 ft (Figures 5-43 and 5-44). Several jumbled lenses of shell also were present in the eroding bankline, obviously incorporated in spoil deposits dredged from the waterway and overlying most of the bank. Whether these are portions of the site or simply natural shell beds which were hit during dredging operations could not be determined. Given the fact that similar distorted lenses and wave-washed shell deposits were noted along both banks of the waterway as far south as the Bonvillain Canal, and that none but the one at 16 TR 196 yielded any artifacts, it is likely that most, if not all, of the shell is from natural deposits.

Smith et al. (1986:Pl. 45) identify a Lafourche-age distributary channel emanating from the main Bayou du Large channel just north of the site, and it is along the natural levees of this course that the site most likely existed.

In an effort to locate the remains of any buried midden at the site, a series of 6-ft-long probes was placed down, both atop the bank and along the edge of the water. None encountered any shell other than that clearly mixed in the spoil.

The only artifact located at the site was a sherd of Baytown Plain, *var. unspecified*, indicating only that the site was utilized sometime after A.D. 1.

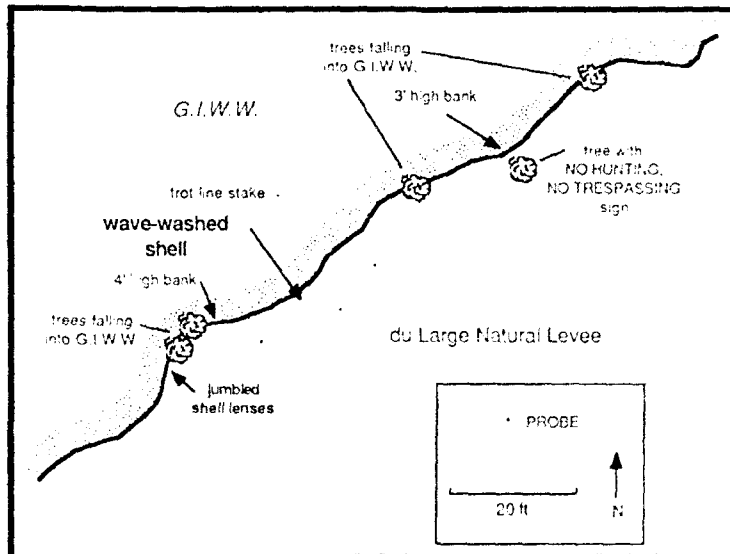


Figure 5-43. Sketch map of the wave-washed shell deposit at the Intracoastal-du Large site (16 TR 196). Probe locations atop the bank are shown.



Figure 5-44. Wave-washed *Rangia* shell exposed along the bank of the GIWW at the Intracoastal-du Large site (16 TR 196). View to the southeast. Date: 11/7/86.

Comments and Recommendations

Intracoastal-du Large is nothing more than the eroded remains of a site which was cut through during construction and/or maintenance dredging of the GIWW. It most likely was associated with the du Large distributary channel noted above. Unfortunately, the site's original size and function cannot be determined.

Because of the disturbed nature of the site, it is not considered eligible for the National Register.

SUNRISE FIELD (16 TR 197)

Location and Description

This site consists of the remains of what may have been two or more shell middens which were dredged and partially redeposited by both construction of the GIWW and an unnamed drill canal in the northeastern portion of the Sunrise Oil and Gas Field. The site occurs on both the north and south banks of the waterway and the east and west banks of the canal, about 1.6 mi east of Minors Canal. It was found during the present survey while inspecting a high-probability area situated immediately to the east.

This high-probability area was chosen on the basis of two small Lafourche distributary channels identified by Smith et al. (1986:Pl. 44) along the north bank of the GIWW. Although these channels could not be mapped south of the waterway, it is likely that site 16 TR 197 is associated with them.

The portion of the site located along the drill canal on the south side of the waterway is illustrated in Figure 5-45. This area was examined in relative detail, as opposed to the site segment on the north bank of the waterway, since the proposed protection levee will be placed along the GIWW's south bank. Basically, three areas of surface shell are present: (1) a small deposit on the east edge of the canal about 200 ft south of the waterway, (2) a more-lengthy scatter on the west side of the canal stretching for about 180 ft along the bank (Figure 5-46), and (3) a higher, more pronounced beach deposit along the GIWW proper running from the mouth of the canal west for about 120 ft (Figure 5-47). Each of these areas was collected separately in an effort to identify possible cultural differences. Because of the relative paucity of material, no systematic collection was attempted.

The east bank of the canal yielded only one sherd of Baytown Plain, *var. unspecified*, while the west bank produced eight additional *unspecified* sherds of Baytown Plain, and one of Marksville Stamped, *var. Troyville* (Figure 5-48). The beach deposit along the waterway yielded a slightly more extensive collection: 67 sherds of Baytown Plain, *var. unspecified* (including five rims and two bases, one concial and one square and flat), and one sherd each of the *Dozier* and *Stoner* varieties of Coles Creek Incised. Based on this, it may be suggested tentatively that the material along the canal comes from a late Marksville period midden, while that along the waterway is from a midden with either a late Baytown or early Coles Creek component.

In an effort to locate the source of the shell and related cultural material, a series of 6-ft-long probes and two auger borings was placed into the various site areas (see Figure 5-45). Based on these, a possible buried shell lens was identified, portions of which were encountered on either side of the drill canal. Apparently, most of the midden had been removed during canal dredging.

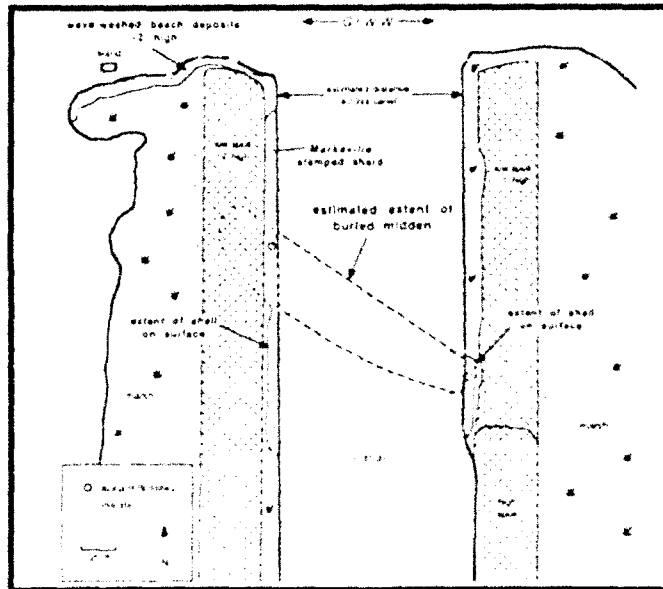


Figure 5-45. Sketch map of the southern portion of the Sunrise Field site (16 TR 197), showing extent of surface material, buried midden, and auger boring and probe locations. The northern portion of the site is situated across the GIWW to the north.



Figure 5-46. Wave-washed shell midden exposed along west side of the unnamed drill canal at the Sunrise Field site (16 TR 197). View to the west. Date: 11/12/86.

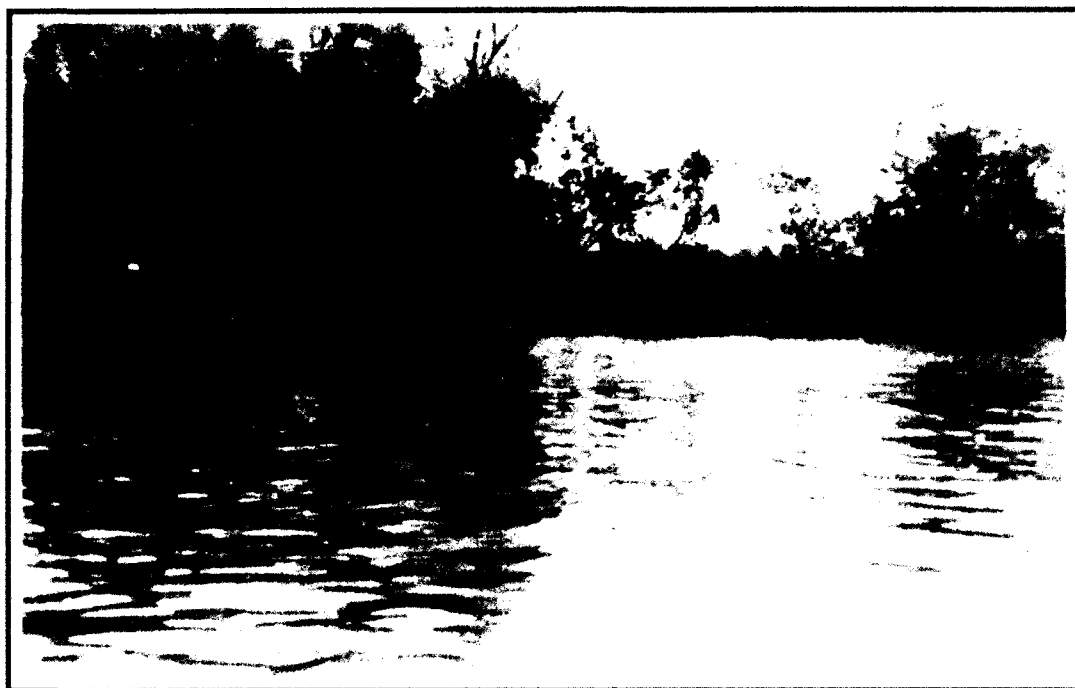


Figure 5-47. Wave-washed *Rangia* midden exposed along the south bank of the GIWW at the Sunrise Field site (16 TR 197). Entrance to the drill canal is to the left. View to the south. Date: 11/12/86.

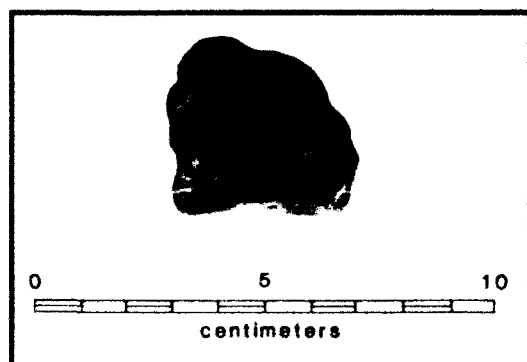


Figure 5-48.

Sherd of Marksville Stamped, var. Troyville from the Sunrise Field (16 TR 197) site. (CEI collection.)

The data from the two auger borings were basically similar, so only that for the east boring are recorded here: 0 to -0.5 ft, very dark gray (10YR 3/1) marsh muck with scattered *Rangia*; -0.5 to -2.8 ft, gray (2.5Y 5/0) clay with thin peat lenses; -2.8 to -3.0 ft, dark gray (2.5Y 4/0) clay with *Rangia* shell and charcoal flecks; -3.0 to -4.6 ft, dark gray clay (2.5Y 4/0) with thin peat lenses; -4.6 to -6.6 ft, very dark brown (10YR 2/2) peat; -6.6 to -8.0 ft, dark gray (5Y 4/1) clay with thin peat lenses. What has been interpreted as midden is the layer situated between -2.8 and -3.0 ft, while the deposits above and below indicate that the site formed on, and later was covered by, a probable well-drained backswamp. As no definite natural levee could be located, it seems likely that the site developed at the very fringes of the small Lafourche distributary channels noted earlier.

As previously mentioned, the site area on the north bank of the GIWW was only examined superficially. There, however, what may be the most promising and well-preserved portion of the site was found. Probing revealed that intact shell, about 3 ft thick, is located approximately 2 ft below the present ground surface. An extensive wave-washed beach deposit stretches along the edge of the GIWW for about 300 ft, is about 15 ft wide, about 2 ft high, and undoubtedly marks the remains of the same midden which was bisected by the waterway.

Although artifacts from the north bank of the GIWW consisted solely of 10 sherds of Baytown Plain, *var. unspecified*, it is possible that this material comes from the same midden as that along the GIWW's south bank.

Comments and Recommendations

Although partly destroyed by canal and waterway dredging, it seems likely that site 16 TR 197 retains sufficient in situ material to be considered potentially eligible for the National Register. If, as suggested, at least two separate middens were impacted, one of the late Marksville period (ca. A.D. 200 to 400) and one of the late Baytown or early Coles Creek periods (ca. A.D. 600 to 800), then excellent data related to each component should be preserved below the marsh and spoil adjacent to the waterway.

It is difficult to identify the specific function of each midden, although clearly shellfish collecting occurred. Considering, however, the presence of deer and turtle bone, it may be that a somewhat more substantial occupation occurred. Perhaps the sites served as small family hamlets.

XU-GIWW (16 TR 207)

Location and Description

This site consists of two redeposited areas of shell midden situated on opposite sides of the GIWW from one another, although it is likely they are derived from the same site. The western location is located approximately 0.9 mi southwest of the mouth of the Bonvillain Canal, while the eastern area is about 0.95 mi southwest of the canal's mouth. The site was discovered during the present study while one of the survey crews was travelling to a sample survey canal during the Terrebonne marsh portion of the project. Because the site actually exists along the waterway, however, it is included in this section of the study.

Based on the interpretation provided by Smith et al. (1986:Pl. 44), the site occurs in a low-probability area, where no channels were observed, and thus was not examined during the resurvey of the GIWW. However, a review of 1955 aerial photographs of the area clearly show a relict channel emanating from Bayou Black to the north, and then winding its way past the site location in a generally southeasterly direction. In fact, it appears that the two locations of 16 TR 207 were once situated along the northern (or eastern) natural levee of this channel.

Figures 5-49 and 5-50 show the two site areas, west and east, respectively, while Figures 5-51 and 5-52 provide photographs of the same areas. The western area consists of a limited surface scatter of *Rangia* shell, along with two small beach deposits, and shell mixed in spoil that is exposed in a 1-ft-high bank along the waterway. Probing with a 6-ft-long rod failed to encounter any subspoil shell, and it seems likely that the original site locus now lies out in the GIWW channel. Only two sherds of Baytown Plain, *var. unspecified* were located.

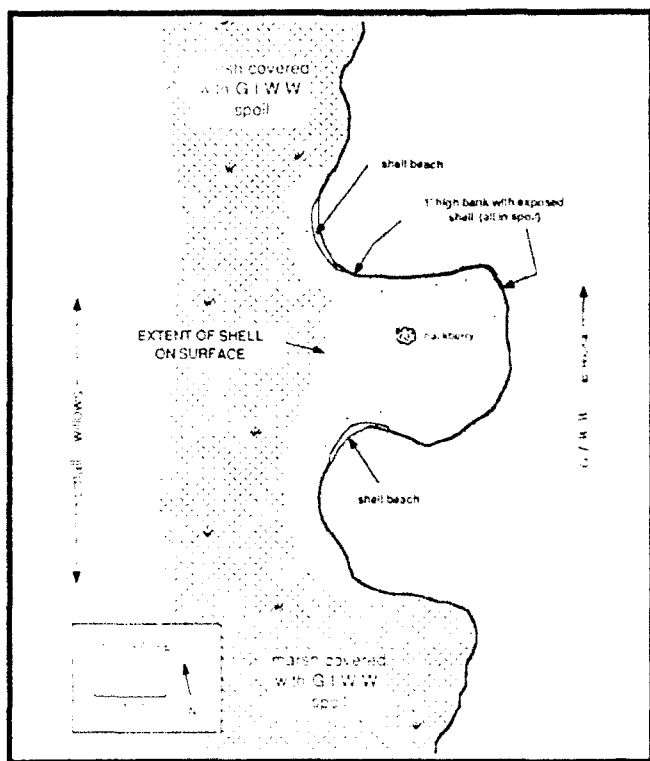


Figure 5-49.

Sketch map of the western portion of the Xu-GIWW site (16 TR 207), showing extent of surface shell, beach deposits, and probe locations.

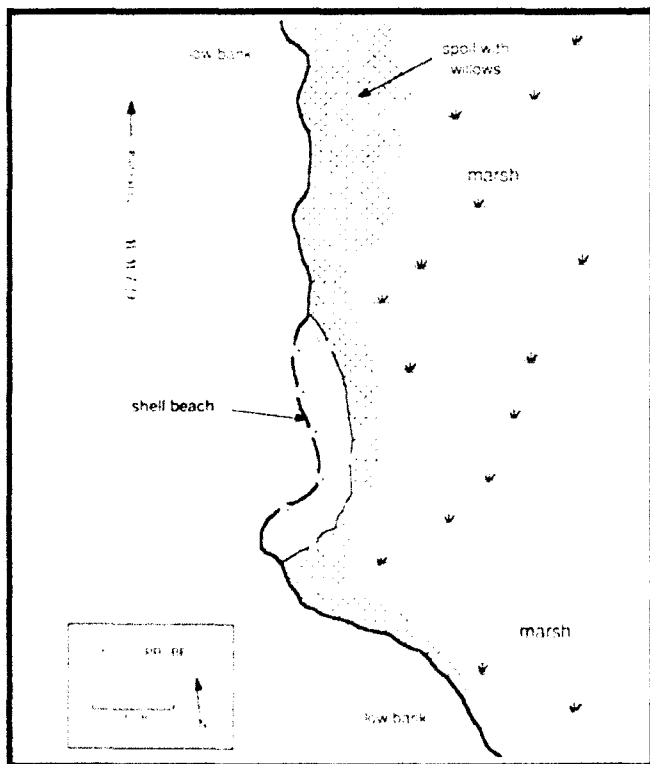


Figure 5-50.

Sketch map of the eastern portion of the Xu-GIWW site (16 TR 207). Probe locations and the extent of the shell beach are shown.



Figure 5-51. *Rangia* shell exposed along west bank of the GIWW at the Xu-GIWW site (16 TR 207). View to the west-southwest. Date: 3/23/87.



Figure 5-52. Wave-washed *Rangia* midden exposed along the east bank of the GIWW at the Xu-GIWW site (16 TR 207). View to the east. Date: 3/23/87.

The eastern site area is marked simply by a low wave-washed beach deposit of *Rangia* shell that partially overlaps onto low spoil deposits from the GIWW. No exposed bank is present. Probing failed to locate any subsurface shell deposits, and it may be surmised that the present shell beach came from a locus now in the GIWW, most likely the same area from which the western shell came. Again, only a small collection of pottery was obtained, and again it was all Baytown Plain, *var. unspecified*: eight body sherds and two rims. One of the rims came from a beaker while the other was once part of a hemispherical bowl. Unfortunately, such limited data do not help place the site into any chronological framework.

Comments and Recommendations

This site is represented simply by the dredged remains of at least one shell midden which probably was located in the present channel of the GIWW. With the limited amount of data acquired, and the limited amount, if any, to be expected in the future, there is little doubt that the site is not eligible for inclusion in the National Register.

SUNRISE FIELD EAST (16 TR 208)

Location and Description

This redeposited *Rangia* midden (Figure 5-53) was discovered during the present study, along the south bank of the GIWW, about 0.34 mi east of site 16 TR 197, and about 1.7 mi southwest of the entrance of Bonvillain Canal. It was found in what has been defined as a low-probability area, since no relict channels were identified by Smith et al. (1986:Pl. 44) in proximity to the site. However, as noted under the discussion of the Sunrise

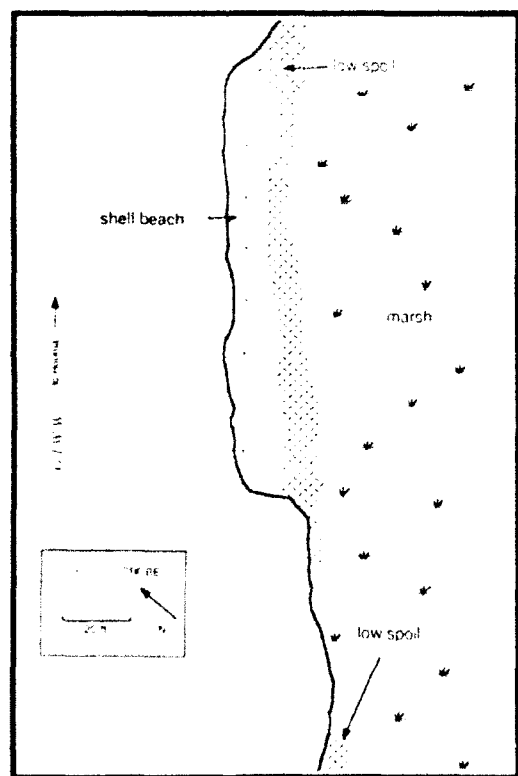


Figure 5-53.

Sketch map of the Sunrise Field East site (16 TR 208), showing extent of shell beach deposit and probe locations.

CHAPTER 6

SURVEY RESULTS AND SITE ASSESSMENTS RELATIVE TO THE TERREBONNE MARSH STUDY AREA

Introduction

As previously noted, this aspect of the overall study was designed to consider the quantity and condition of those sites that would be affected by the primary alternative (the AILE) and one of the secondary barrier alternatives (the Bayou Black Levee). As such, a study area bounded on the north by Bayou Black, on the east by Bayou du Large, on the west by the Avoca Island Cutoff and the Lower Atchafalaya River, and on the south by the Gulf of Mexico, was chosen, and for which its cultural base could be assessed. As described in Chapter 4, the study area was first subjected to a stratified random sample, utilizing terrestrial transects on elevated landforms and canal survey units through marsh, swamp, and over areas of subsided natural levees.

Once the survey was completed the second aspect of the Terrebonne marsh portion of the project occurred. This entailed revisits to a total of 14 sites and/or reported site locations. The site total was increased to 14, from the planned number of 12, since several of the sites could not be relocated and an effort was then made to gain as much data as possible, within the time allowed, from those sites which could be relocated.

Terrebonne Marsh Sample Survey

As reported earlier, the sample survey units and transects were surveyed by two-man crews either operating out of a small boat, an airboat, or walking adjacent paths parallel to one another. The high- and low-probability units of both the canal and terrestrial surveys are shown on Plate 3.

The actual survey of the sample units occurred in two separate segments. The first began on 7 November 1986 and lasted until 12 December 1986, while the second began on 23 March 1987 and lasted until 26 March 1987. Eighteen sites were encountered during the sample survey, and are shown on Plate 3. Of these, seven sites were previously recorded locales that happened to fall within the specific survey units, while the remaining sites were newly discovered locales.

The terrestrial survey was by far the most successful, having located 15 sites on its own and part of one site that fell on both a terrestrial transect and along a canal unit. The boat survey, on the other hand, recorded only two sites of its own, along with the other portion of the site found by both survey methods. Naturally, all of the sites located by the terrestrial survey were on high-probability landforms, while the two sites recorded by the boat survey were found along high-probability canal units that had cut through subsided distributary channels and their associated natural levees. Thus, all sites recorded can be related to high-probability strata.

While the results were to some extent disappointing, they were also enlightening. There are probably several reasons for the low number of sites recorded by the boat survey, but a major factor was the extent of vegetation cover on the canal banks. The importance of this factor was emphasized by an accidental discovery made later during the study. While traveling to a site revisit area, one of the boat crews stopped to examine two recently dredged well slips. Each slip had hit a subsided site. The sites were located shortly after the well slips were dredged, at a time when the spoil was still clear. Within a few months the vegetation would have become so dense that it would have been difficult to locate the two locales. The implication for the survey is that completely subsided sites with remains only present in spoil piles may have escaped detection.

In any event, descriptions of the eighteen sites recorded during the Terrebonne marsh sample survey are presented below.

BAYOU DU LARGE/MARMANDE PLANTATION (16 TR 19)

Location and Previous Description

This is a well-known site that has been visited and discussed several times by past investigators, beginning in the 1920s. It is marked by a prominent pyramidal mound (Figure 6-1), situated in sugarcane fields approximately 0.7 mi west of Bayou du Large and 1.05 mi north-northwest of the junction of Marmande Canal and Bayou du Large. The site is located in a relatively strategic position, near the junction of Marmande Ridge and the Bayou du Large natural levee, but there is considerable confusion concerning the actual geological situation, and this will be reviewed in detail below.



Figure 6-1. Tree-covered, pyramidal mound at the Bayou du Large/Marmande Plantation site (16 TR 19). View to the east-northeast. Date: 11/18/86.

According to the LDA site form, the mound originally was located and collected by Randolph Bazet in the early 1920s. In fact, a collection made by Bazet in 1926 was later lent to McIntire for use in his 1950s research.

In 1926, Henry Collins of the Smithsonian Institution made a quick trip through coastal Louisiana. While in Terrebonne Parish, Collins was guided to sites by Bazet (Collins 1927:200-201). Although the Bayou du Large/Marmande Plantation Mound is not specifically mentioned, it undoubtedly was visited by Collins. Perhaps it was during this visit, in fact, that Bazet acquired his 1926 collection. An interview with Antoinette T. Marmande, who has lived in Theriot since the early 1920s, revealed the local belief that Collins obtained burials and artifacts from the site, and that these were subsequently sent to the Smithsonian (Antoinette T. Marmande, personal communication 1986).

In August 1952, McIntire and Kniffen visited the site and filed the initial site form on the locale. They reported a pyramidal mound about 12 ft high and 75 ft in diameter, composed predominantly of earth, although a good bit of shell was exposed along the east side (LDA site form). This information, along with data from subsurface borings placed into the ground near the mound, later was incorporated into McIntire's 1958 study. Because of the importance of the site and the subsurface information acquired there, McIntire's (1958:72-73) description is repeated below:

The earth mound [16 TR 19] on Marmande Ridge . . . at first appears to rest upon recent levees off a distributary of Bayou Du Large. Additional investigation, however, proved that the mound had been built on a previous shell midden. The midden material extends for a depth of twelve feet below the surface of the ground and is resting on an ancient levee. Between this mound and Houma, paralleling Bayou Du Large, is another extensive shell ridge. The surface of the ridge is barely discernible above the ground but extends in depth over twelve feet. The general strike of the shell ridge is in the direction of the mound on Marmande Ridge and indicates that they may have been based on the same natural levee. An additional shell ridge about a mile and one-half north of this site was reported but not personally investigated. The presence of these three sites lined in a general axis substantiates the theory of the writer that a former stream paralleled what is now Bayou Du Large. It seems likely that this stream was a diversion or distributary from the Teche-Mississippi or the Boeuf-Red which later occupied the Teche-Mississippi channel. Since no red sediments were found beneath the shell, the former thesis is more probable. The relative age of the pottery is Troyville, but the depth of the midden material suggests that the pottery picture is probably not complete.

This brings into play the recent geological interpretation provided by Smith et al. (1986:Pl. 50). Those authors show Marmande Ridge as a Lafourche-age distributary, but were unable to trace its course all the way back to Bayou du Large. Rather, the Marmande channel stops just west of the mound at 16 TR 19. What may be the course along which McIntire noted the shell ridges north of the mound and west of du Large, is shown by Smith et al. (1986:Pl. 50) as a possible Lafourche distributary channel extending in a south-southwesterly direction from a point along Bayou du Large about 1.8 mi north-northeast of the mound.

A review of 1955 aerial photographs by the present authors suggests that McIntire's interpretation may be fairly accurate. Figure 6-2 shows the hypothesized sequence of channels related to the area around 16 TR 19, as identified off the 1955 aeriels. As shown on Figure 6-2, A, a major distributary channel can be seen emanating from the Teche-Mississippi natural levee and heading southeast towards the present location of 16 TR 19. Once south of

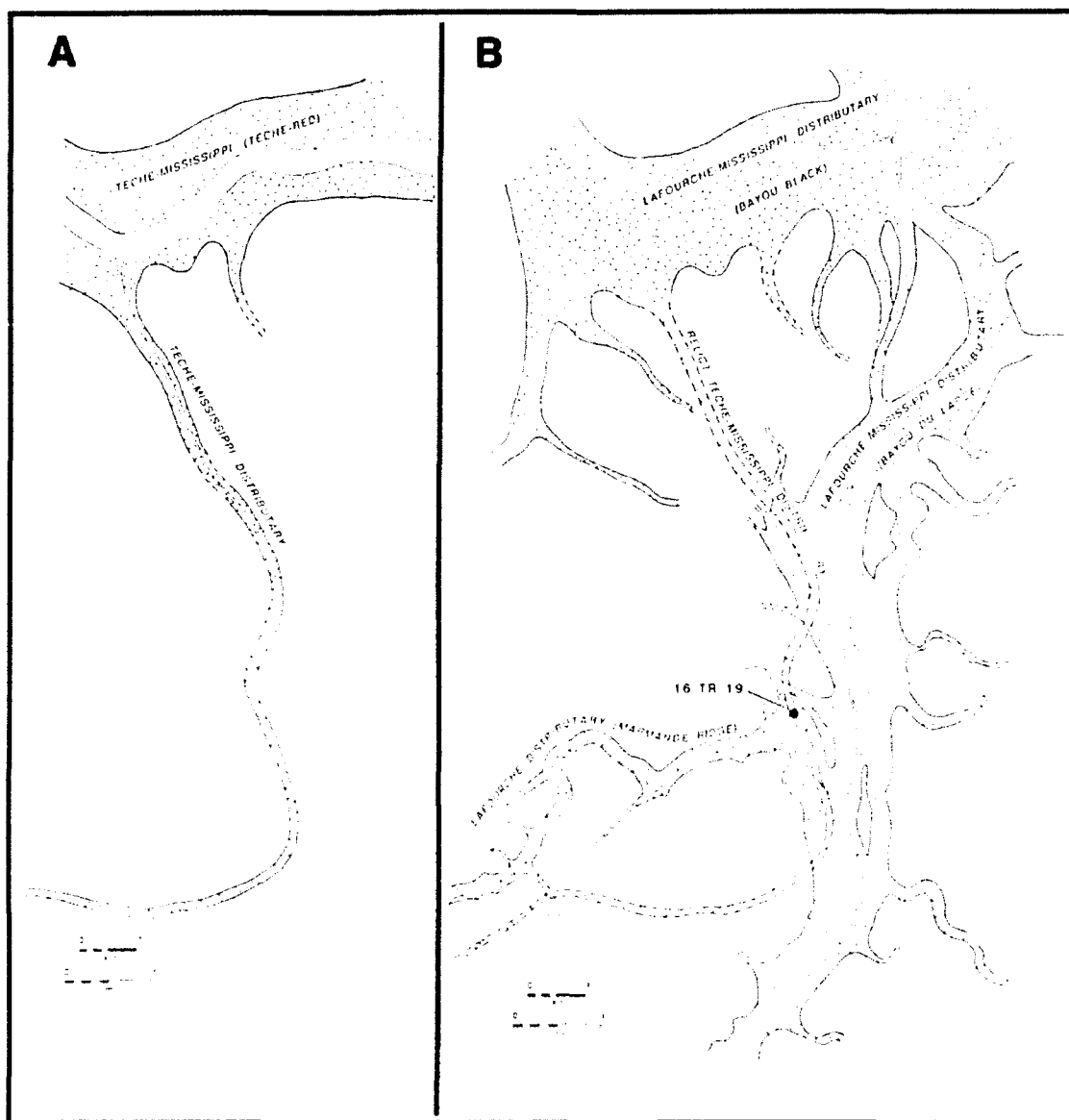


Figure 6-2. Hypothesized sequence of channels in the northeastern corner of the study area. (A) Distributaries related to the Teche-Mississippi or Teche-Red, (B) Distributaries related to the Lafourche-Mississippi. The location of site 16 TR 19 is shown.

the site, the distributary made a westward swing, eventually passing by the location of site 16 TR 43 (to be discussed below), and then heading southwest towards today's Turtle Bayou. In fact, Turtle Bayou probably represents the enlarged channel of this same distributary.

Figure 6-2, B, shows the area following abandonment of the Teche-Mississippi and the eventual arrival of the Lafourche-Mississippi and its myriad of distributaries. At that time the old Teche course was reoccupied by the Bayou Black Lafourche-Mississippi distributary.

From this developed the du Large distributary, and from that came the Marmande distributary. It appears that the latter channel actually left the du Large course at Theriot, headed in a north-northwesterly direction to the location of 16 TR 19, and then swung to the west forming today's Marmande Ridge. There also are suggestions of a minor crevasse channel leaving Marmande Ridge at 16 TR 19 and heading north into the swamp west of the Bayou du Large natural levee. The presence of this crevasse, in fact, along with the commanding position of the Marmande-du Large natural levee junction, may be the prime reasons for the site's location.

In any case, McIntire (1958:Pl. 13) analyzed Bazet's 1926 collection. Because it formed the basis of his identification of the site as a Troyville period initial occupation locale (McIntire 1958:Pl. 5), it is presented here:

<i>Type</i>	<i>Percentage</i>
Fatherland Incised	25.9
Plaquemine Brushed	6.4
Chase Incised	3.2
Coles Creek Incised	12.9
Pontchartrain Check Stamped	19.4
French Fork Incised	12.9
Larto Red	3.2
Mazique Incised	2.9
Churupa Punctated	3.2
Unclassified	10.0

Based on the above, there is little reason to doubt the Troyville component. However, as will be seen, such a component does not appear to exist. Rather, this seems to be a case of classification error on the part of McIntire.

Regardless, McIntire (1958) also used the above analysis to identify Coles Creek (Pl. 7) and Plaquemine (Pl. 8) components, occupations of which there can be no doubt.

In 1970, Phillips was somewhat more discriminating in identifying components at 16 TR 19, and used McIntire's data with a bit of care (Phillips 1970:911). Thus, the site is not identified as a Baytown period locale, but, rather as a site with a Coles Creek period, Bayou Cutler phase component (Phillips 1970:922, Fig. 446), and as a site with a Mississippi period, Bayou Petre phase component (Phillips 1970:Fig. 447). This latter assignment is undoubtedly an error, however, as the site should have been plotted as a Delta Natchezan component, based on Phillips' (1970:953) own criteria for sorting Delta Natchezan from Bayou Petre.

Neuman (1977:22) listed the site as a shell mound and midden, repeated McIntire's dimensions for the mound, and, also following McIntire, identified Troyville through Plaquemine components.

By far, the most useful site description is provided by Altschul (1978:102-109), who visited the mound during his sewerage-line survey of the area to be affected by the Houma-Terrebonne Regional Sewerage Plan. While Altschul's data on the mound are excellent, he incorrectly concluded that a midden located along Bayou du Large about 0.7 mi to the east-northeast was the location of 16 TR 3, and that both this midden and the mound at 16 TR 19 were portions of the same site. He then identified the two areas as "16 TR 19/3." While there is little doubt that both 16 TR 19 and the midden by the bayou are contemporaneous, and may have formed segments of a large village area at the junction of

Marmande Ridge and Bayou du Large, they are over 0.5 mi from one another and warrant separate site status. In addition, it is now known, as will be related under the discussion of 16 TR 3, that site 16 TR 3 is not located along Bayou du Large, but along Marmande Ridge west of 16 TR 19.

Thus, for the purposes of review and comparison, only Altschul's 16 TR 19 will be considered here. His 16 TR 3 is now identified as 16 TR 218, and will be discussed later in this section. Luckily, although Altschul combined 16 TR 19 and 218 in his general discussion, he did separate the two areas when he reported his actual fieldwork and artifact analyses. His data, therefore, are entirely useful.

Altschul (1978:103) reports the mound at 16 TR 19 as 5.9 m (19.4 ft) high with a rectangular base measuring 20 by 25 m (65.6 by 82 ft). Several pothunting holes were noted on its summit. No shell is noted on or adjacent to the mound, and, in fact, it is described as an "earth mound" (Altschul 1978:103).

Because 16 TR 19 was not directly within the impact zone of the proposed sewerage line he was surveying, Altschul only made a surface collection at the site. He reported a "relatively large number of artifacts . . . found in a regular pattern circling the mound for approximately 100 m (328 ft) (Altschul 1978:103). A map of the site is provided (Altschul 1978:Fig. 40) which identifies the surface collection area around the mound. A modified version of this map will be presented later in this section.

Altschul collected 285 sherds from the fields around the mound. His (Altschul 1978:Table 15) analysis is repeated below:

<i>Ceramics</i>	<i>Percentage</i>
Baytown Plain	
<i>var. Little River</i>	2
<i>var. unspecified</i>	12
Coles Creek Incised	
<i>var. Coles Creek</i>	1
<i>var. Hardy</i>	6
<i>var. Mott</i>	2
French Fork Incised	
<i>var. Iberville</i>	2
Mazique Incised	
<i>var. Manchac</i>	3
Pontchartrain Check Stamped	
<i>var. Pontchartrain</i>	7
Unidentifiable	11
Plain body sherds	239

In addition, one secondary flake, three lithic chunks, several pieces of daub, and five oyster shells were collected (Altschul 1978:Table 15).

Clearly, Altschul's ceramic collection indicates a late Coles Creek assemblage, probably of a transitional Coles Creek/Plaquemine nature. This, in fact, is what Altschul (1978:109) suggests. The most salient feature of the collection is that no Troyville markers were located. Lastly, Altschul (1978:Table 30) argues that 16 TR 19 is highly significant in terms of National Register criteria, as it contains one of the largest and best preserved mounds in the region.

Finally, in regard to previous discussions of 16 TR 19, Weinstein and Gagliano (1985:141, Fig. 7) suggest that the site had its initial occupation during the late Marksville period (based on McIntire's identification of *Churupa Punctata*, and his reasoning that the shell midden beneath the mound was probably relatively early). They also plot the site on subsequent maps of the Baytown, Coles Creek, and Mississippi periods (Weinstein and Gagliano 1985:142, Figs. 8, 9, 10) (again, utilizing data supplied by McIntire for the Baytown period component).

Present Description

Today, 16 TR 19 is much the same as described by Altschul. However, in addition to the mound and surrounding prehistoric artifact scatter, a historic artifact scatter was found in the field north of the mound (Figure 6-3). This undoubtedly represents the remains of a twentieth-century tenant house, and will be discussed in more detail below.

First, however, a review of the prehistoric remains is in order. Since no subsurface testing had been done by Altschul, it was decided that several shovel tests around the base of the mound would be an economical means of locating possible intact midden. In addition, one auger boring was considered essential in order to more clearly define the relationship of the mound to the buried shell midden reported by McIntire.

Thus, four shovel tests were placed out from the mound approximately 50 ft in the cardinal directions (see Figure 6-3). One additional test was placed on a low ridge now used as a dirt farm road. This ridge probably marks the central point of the relict Marmande crevasse channel, and would have offered a slightly higher area for settlement. All five tests yielded the same basic stratigraphy: 0 to -0.5 ft, yellowish brown (10YR 5/4) silty clay; -0.5 to -1.0 ft,

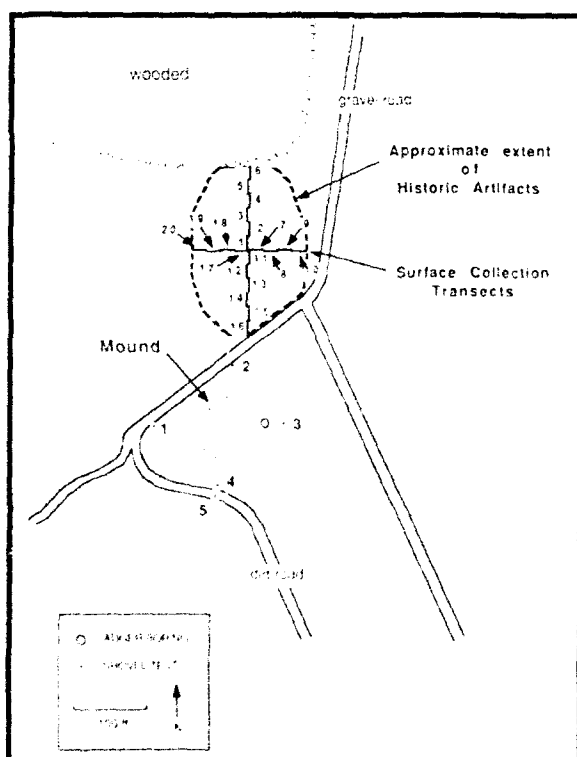


Figure 6-3.

The Bayou du Large/Marmande Plantation site (16 TR 19), showing pyramidal mound, location of historic artifacts, and placement of shovel tests and auger boring. (Modified from Altschul 1978:Fig. 40.)

mottled brown (10YR 5/2) and brownish yellow (10YR 6/6) thick, heavy clay. The upper stratum is interpreted as plow zone, while the lower is natural levee deposits. In Shovel Tests 1, 2, and 5, *Rangia* shell was mixed in the upper stratum suggesting that possible midden material had been reworked within the plow zone. Unfortunately, due to the nature of the natural levee clays, shovel tests had to be terminated at 1 ft. Thus, it was not possible to determine whether any deeper midden was present.

The auger boring was of only limited additional help. It was placed down 25 ft east of the mound (see Figure 6-3), in the location noted by McIntire as having a probable shell midden, and yielded the following: 0 to -0.5 ft, yellowish brown (10YR 5/4) silty clay (same as in the shovel tests); -0.5 to -2.2 ft, mottled brown (10YR 5/2) and brownish yellow (10YR 6/6), clay (same as in the shovel tests); -2.2 to -4.0 ft, mottled yellowish brown (10YR 5/4) and gray (10YR 5/1) clay. The boring was terminated at -4 ft, as no evidence of cultural remains could be found. In fact, the entire boring was void of shell, bringing into question McIntire's description of a shell midden beneath the mound. Either McIntire's description is in error, or he confused a boring placed down at another site with that at 16 TR 19. Unfortunately, the data recovered by the CEI field crew cannot solve the problem. No prehistoric artifacts were found at the site.

The historic component located north of the mound was examined by means of four surface-collection transects run out from the center of the scatter at 90° angles (see Figure 6-3). Each was sectioned into 20-ft-long collecting units 6 ft wide. The results of this collection are presented in Table 6-1. As noted above, the historic remains most likely represent a twentieth-century house site. Included in the 101 recovered artifacts are pieces of bottles manufactured by automatic, bottle-making machines (post-1903), and three bottle manufacturers' marks that date after 1917. None of the recovered artifacts appear to date from the nineteenth century.

Lastly, in an effort to more fully understand the prehistoric components present at 16 TR 19, two collections now housed at the LSU Museum of Geoscience were analyzed. One corresponds to that reported by McIntire (1958:Pl. 13) and which originally was collected by Bazet in May 1926 (Catalogue No. 51-53), while the other was made by Neuman in February 1976 (Catalogue No. 16TR19-1). This latter collection consists only of three sherds, so it has been combined with Bazet's for presentation in this study (Table 6-2). Selected sherds from the LSU collections are illustrated in Figure 6-4.

Obviously, there are discrepancies between the present analysis and that of McIntire (see above), but there can be little doubt that the same collection is involved. Apparently, McIntire's Chase Incised is now one of the *Coles Creek* sherds (see Figure 6-4, C-D), while his Churupa Punctated is almost certainly the sherd of *McIlhenny* (see Figure 6-4, S). (Unless the edge of a sherd is broken and examined for temper, it is easy to confuse Churupa with Owens.) The sherd of Harrison Bayou Incised (see Figure 6-4, J) was probably counted as *Plaquemine Brushed* by McIntire as he has two of the latter type while we have only one. The major discrepancies involve McIntire's French Fork Incised and Larto Red, neither of which we identified. One of the sherds we classed as Baytown Plain, however, is a French Fork-type lug (see Figure 6-4, B), while another of the same type exhibits the Six-Mile treatment on its rim strap and lip (see Figure 6-4, A), features which McIntire probably would have called French Fork Incised.

Other interesting specimens in the collection include the rim of *Greenhouse* (see Figure 6-4, E) which has red pigment in its upper line (perhaps this was McIntire's Larto Red), the sherd of *Plaquemine* (see Figure 6-4, K) which has overincised diagonal lines, and the sherds of *Junkin* which are extremely thin, highly polished, and exceptionally well made. It is also interesting to note that the *Nancy* sherd (see Figure 6-4, P) and one of the *Bayou*

Table 6-1. Artifacts Collected from the Historic Component at the Bayou du Large/Marmande Plantation Site (16TR19).

SURFACE COLLECTION TRANSECTS	ARTIFACT TYPE	CATEGORY	DESCRIPTION	NUMBER	TOTAL
1	Glass	Clear	Automatic bottling machine (a.b.m.) made fragment	1	9
		Amber	Unidentified fragment	1	
		Clear	Window	1	
	Metal		Unidentified	1	
	Ceramic	Stoneware	Bristol glazed	1	
	Brick		Fragment	2	
	Ceramic	Whiteware	Undecorated	1	
	Glass	Opaque white	Unidentified	1	
2	Glass	Clear	a.b.m. made pepper sauce bottle top	1	8
			Unidentified	2	
		Amber	Unidentified	1	
	Ceramic	Whiteware	Undecorated	2	
			Undecorated with mark "T.L.C. U.S."	1	
			(Homer Laughlin China Co., ca. 1935- 1950; Gates and Ormsted 1982:140)		
3	Metal		Unidentified	1	11
	Metal		Unidentified	1	
		Whiteware	Undecorated	1	
	Ceramic	Semi-porcelain	Undecorated	1	
	Brick		Fragment	2	
	Glass	Opaque blue	Unidentified	1	
4	Glass	Clear	Unidentified	3	12
			a.b.m. made, with mark "K" (Knox Bottle Co. 1917-1968; Toulouse 1971:293)	1	
	Brick		Unidentified	8	
			Fragment	2	
5	Metal		Possible backing for clock	1	4
	Glass	Clear	Unidentified	1	
		Amber	Unidentified	1	
		Opaque white	Unidentified	1	
6	Brick		Fragment	1	1
7	Glass	Clear	Unidentified	3	8
		Opaque blue	Unidentified	1	
	Ceramic	Whiteware	Undecorated	3	
		Yellowware	Annular	1	
8	Ceramic	Whiteware	Undecorated	1	5
	Brick		Fragment	1	
	Glass	Clear	Unidentified	2	
		Amber	Unidentified	1	
9	Brick		Fragment	3	6
	Glass	Clear	a.b.m. made with mark "F" (Fairmont Glass Co., 1945-1960; Toulouse 1971:201)	1	
			Unidentified	1	
		Amber	Unidentified	1	
10	Glass	Clear	Unidentified	2	2
11	Glass	Clear	Unidentified embossed: "FEDERAL LABORATORY SAL... F TILL..."	2	3
	Brick		Fragment	1	

(continued)

Table 6-1. concluded.

SURFACE COLLECTION TRANSECTS	ARTIFACT TYPE	CATEGORY	DESCRIPTION	NUMBER	TOTAL
12	Ceramic Glass	Semi-porcelain	Blue painted	1	4
		Opaque white	Unidentified	1	
		Clear	Unidentified	2	
13	Glass Ceramic Brick	Clear	Unidentified	1	3
		Stoneware	Blue glazed	1	
			Fragment	1	
14	Ceramic Brick	Whiteware	Undecorated	2	3
			Fragment	1	
15	Metal		Unidentified	3	3
16	Glass	Clear	Unidentified	1	1
17	Ceramic Metal Glass	Whiteware	Undecorated	1	4
			Washer	1	
		Clear	Unidentified	2	
18	Brick Ceramic Glass		Fragment	1	8
		Whiteware	Blue edge band	1	
		Clear	Unidentified	4	
		Opaque white	Unidentified	2	
19	Ceramic Whiteware Glass	Porcelain	Undecorated	1	4
		Whiteware	Green glazed	1	
		Clear	Unidentified	2	
20	Glass Brick	Clear	Unidentified	1	2
			Fragment	1	

Goula rims (see Figure 6-4, O) have paste equivalent to the *St. Catherine* variety of *Addis* Plain.

Perhaps the most salient aspect of the entire ceramic assemblage is the excellent representation of middle to late Mississippi period, Delta Natchezan phase markers. These include the sherds of *Addis* and *Junkin*, and those of *Fatherland Incised* (see Figure 6-4, M-P). It also is likely that the sherd of *Plaquemine* and some of the *Manchac* (see Figure 6-4, H-I) are part of this component. Also included may be the sherds of *Bell Plain*, *Mississippi Plain* (see Figure 6-4, Q-R), and *Owens Punctated*, although all of these may point to a later reoccupation of the site by Bayou Petre phase peoples. What is clear from all of this, though, is the fact that the site was occupied, possibly continuously throughout the Mississippi period, including what almost certainly has to be a protohistoric occupation. This latter occupation, in fact, may be a *Chitimacha* or *Washa* component.

As noted earlier under the review of Altschul's collection, a strong transitional *Coles Creek*/*Plaquemine* occupation also is indicated. Specifically, marker sherds include *Hardy* (see Figure 6-4, F-G), *Harrison Bayou*, and probably some, if not all, of the *Manchac* specimens. A slightly earlier late *Coles Creek* assemblage can possibly be seen in the sherds of *Little River* and *Greenhouse*. A relatively substantial early *Coles Creek* component also is present, identified by the sherds of *Coles Creek*, *Mazique*, and probably most of the *Pontchartrain*, although the latter variety can occur both earlier and later in time. The two sherds with *French Fork* characteristics also may be associated with this early *Coles Creek* component. Since no definite *Baytown* period markers are present, it seems likely that such is the case.

Table 6-2. Aboriginal Ceramic Counts and Percentages for the Bayou du Large/Marmande Plantation Site (16 TR 19), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Addis Plain					
<i>var. Addis</i>	0	7	7	4.1	--
<i>var. Junkin</i>	1	18	19	11.2	--
Baytown Plain					
<i>var. Little River</i>	0	5	5	2.9	--
<i>var. unspecified</i>	17	79	96	56.5	--
Bell Plain					
<i>var. unspecified</i>	0	3	3	1.8	--
Coles Creek Incised					
<i>var. Coles Creek</i>	1	2	3	1.8	9.1
<i>var. Greenhouse</i>	1	0	1	0.6	3.0
<i>var. Hardy</i>	2	2	4	2.4	12.1
Evansville Punctated					
<i>var. unspecified</i>	0	1	1	0.6	3.0
Fatherland Incised					
<i>var. Bayou Goula</i>	2	0	2	1.2	6.1
<i>var. Nancy</i>	1	0	1	0.6	3.0
<i>var. unspecified</i>	1	0	1	0.6	3.0
Harrison Bayou Incised					
<i>var. Harrison Bayou</i>	0	1	1	0.6	3.0
Mazique Incised					
<i>var. Mazique</i>	1	1	2	1.2	6.1
<i>var. Manchac</i>	3	4	7	4.1	21.2
Mississippi Plain					
<i>var. unspecified</i>	3	4	7	4.1	--
Owens Punctated					
<i>var. McIlhenny</i>	0	1	1	0.6	3.0
Plaquemine Brushed					
<i>var. Plaquemine</i>	0	1	1	0.6	3.0
Pontchartrain Check Stamped					
<i>var. Pontchartrain</i>	1	7	8	4.7	24.2
Total	34	136	170	100.2	99.8

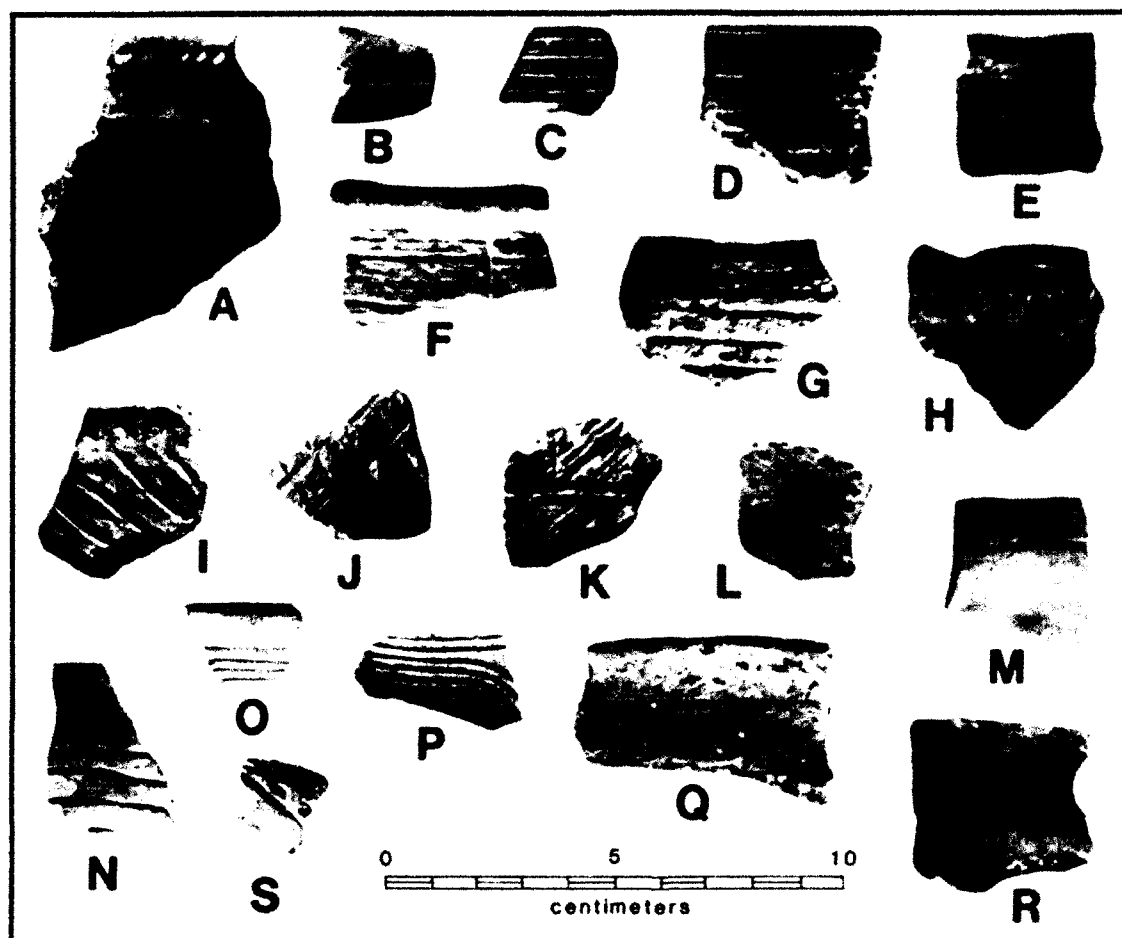


Figure 6-4. Aboriginal ceramics from Bayou du Large/Marmande Plantation (16 TR 19). A) Baytown Plain, var. *unspecified* (with Six-Mile treatment on rim strap and lip); B) Baytown Plain, var. *unspecified* (French Fork lug with fine-line incising); C-D) Coles Creek Incised var. *Coles Creek*; E) Coles Creek Incised, var. *Greenhouse* (with red pigment in upper incision); F-G) Coles Creek Incised, var. *Hardy*; H-I) Mazique Incised, var. *Manchac*; J) Harrison Bayou Incised, var. *Harrison Bayou*; K) Plaquemine Brushed, var. *Plaquemine* (with overincising); L) Evansville Punctated, var. *unspecified* (possibly var. *Wilkinson*); M) Fatherland Incised, var. *unspecified*; N-O) Fatherland Incised, var. *Bayou Goula*; P) Fatherland Incised, var. *Nancy*; Q-R) Mississippi Plain, var. *unspecified* (from carinated jars); S) Owens Punctated, var. *McIlhenny*. (All from LSU collections.)

Comments and Recommendations

Without a doubt, the Bayou du Large/Marmande Plantation site is one of the premier villages within the study area. Its location commands the approaches to the lower ends of Bayou du Large and the western portion of Marmande Ridge and environs. The presence of a flat-topped mound indicates political and/or religious control, as well. Unfortunately, it is not now possible to accurately identify the age during which the mound was built. Given the relative intensity of the various components, as based on the quantity of ceramics recovered,

however, it would appear that the mound most likely is a Plaquemine feature, as suggested earlier by Altschul. Overall, occupation appears to have been relatively continuous from early Coles Creek (ca. A.D. 700) to late Mississippi (ca. A.D. 1700) times.

As Altschul recommended, there is no doubt that the site is eligible for the National Register of Historic Places, even if, as it appears, much of the midden surrounding the mound has been mixed in the plow zone. The mound is in excellent condition, and submidden features, such as pits and postmolds, undoubtedly exist beneath the plow zone. These can provide a wealth of data on house types, intrasite settlement patterns, and subsistence (assuming faunal and floral remains are preserved in pit fill).

BAYOU PENCHANT I (16 TR 47)

Location and Previous Description

This relatively large site is situated along the west bank of Bayou Penchant about 0.6 mi southwest of the junction of the bayou and Lake Penchant. It is shown, along with other nearby features, on the 1935 Lake Penchant, LA, 7.5-min quadrangle map (Figure 6-5). In shape and size, the site is much the same now as it was then. It was first recorded as a site by McIntire and Kniffen in August 1952. At that time it was described as a shell midden with measurements estimated at 3 ft high, 50 ft wide, and 1,000 ft long (LDA site form). Two additional shell ridges were noted west of the site and were described as "extensions," but neither their size nor distance from the main ridge were noted (LDA site form). Apparently at least one auger boring was put down through the site by McIntire and Kniffen, since their site form states that the shell extends to about 8 ft below the water level.

A small collection of material was obtained by McIntire and Kniffen and was analyzed by McIntire in his 1958 study (Pl. 13). This analysis is repeated below:

<i>Type</i>	<i>Percentage</i>
Coles Creek Incised	7.5
Pontchartrain Check Stamped	15.0
French Fork Incised	47.5
Woodville Red Filmed	7.5
Mazique Incised	15.0
Yokena Incised	7.5

As will be seen, there is clearly something either grossly wrong with this analysis or McIntire mixed site collections and the material noted above is not from 16 TR 47. This problem is evident in McIntire's own report, in fact, as the site is shown as having produced 50 to 100% Plaquemine ceramics (McIntire 1958:Pl. 8), yet not a single Plaquemine type is reported in his analysis. Similarly, the site is not included on McIntire's (1958:Pl. 6) map showing sites with French Fork pottery, yet French Fork Incised is the most prevalent type in his analysis. Not to belabor the point, but McIntire (1958:Pls. 5 and 7) also included the site on his Troyville and Coles Creek period maps, and noted that it yielded 50 to 100% ceramics from each period. While this is in line with his analysis, it will be seen that it is not the true situation. Nevertheless, McIntire (1958:73) did note that the Bayou Penchant I site was situated on a probable relict lake beach ridge.

McIntire's ceramic errors were perpetuated further when Phillips (1970) used his data to assign components to sites in the Louisiana coastal zone. Bayou Penchant I, thus, is discussed as one of only four sites located southwest of Houma with an unquestionable Whitehall phase component (Phillips 1970:911, Fig. 445). It also is included as a Bayou

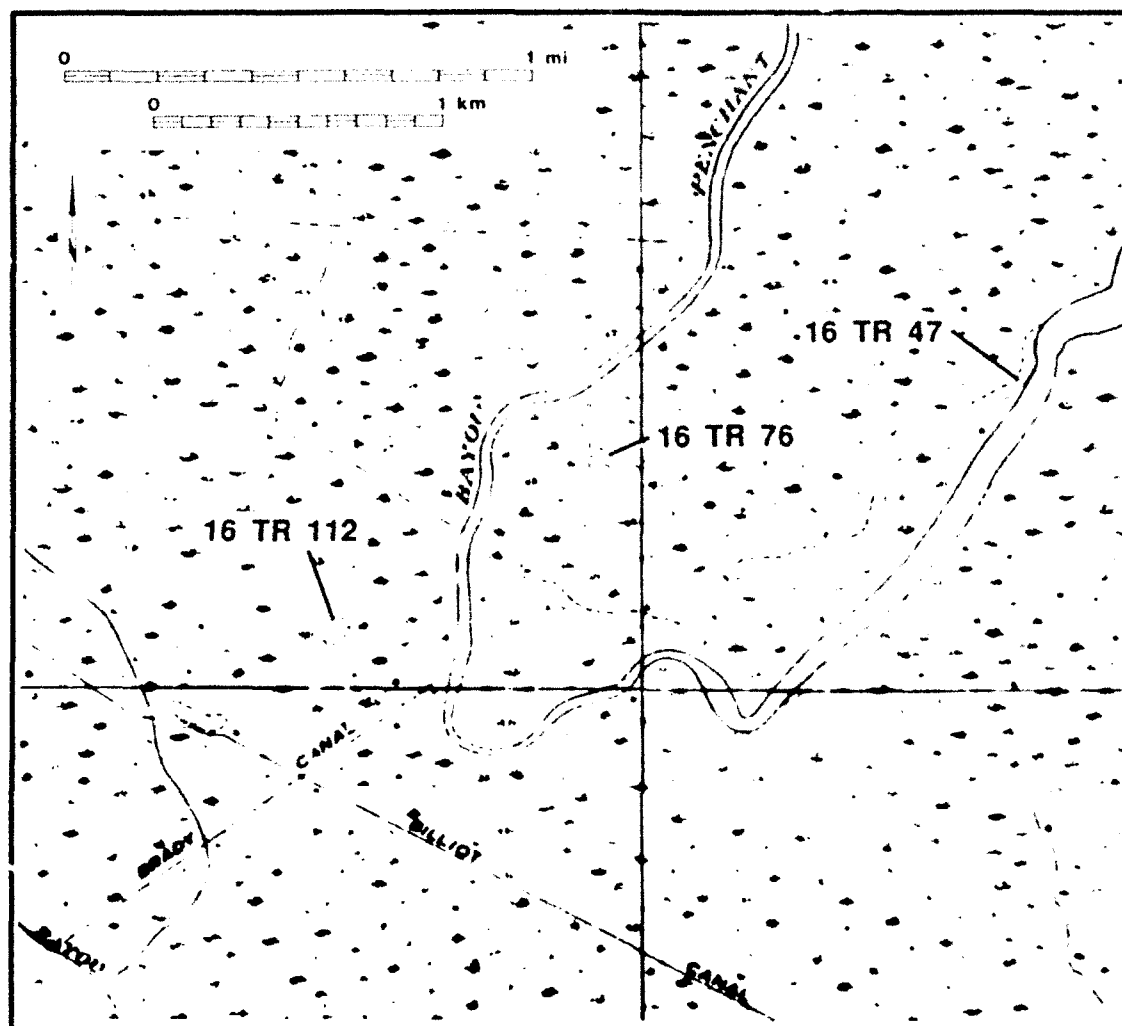


Figure 6-5. The Bayou Penchant I site (16 TR 47), along with nearby sites 16 TR 76 and 112 and other similar features, as shown on the 1935 Lake Penchant, LA, 7.5-min quadrangle map.

Cutler locale on his Coles Creek period map (Phillips 1970:Fig. 446). Interestingly, Neuman (1977:22) suggests that there are "no data" from 16 TR 47 on which to base any cultural interpretations, although he does repeat the site's size estimates recorded on the original site form. By not recording McIntire's distorted ceramic information, whether by intent or not, Neuman has, in fact, helped stop the spread of erroneous information.

Unfortunately, Weinstein and Gagliano (1985) took McIntire's ceramic analysis at face value and plotted the locale as a Marksville period initial occupation site (based on the sherd of Yokena Incised), with later components during the Baytown and Coles Creek periods (Weinstein and Gagliano 1985:Figs. 7, 8, and 9). As will be seen shortly, all of this is somewhat academic, as the present study acquired a new collection from the site and reanalyzed McIntire and Kniffen's original material, thereby allowing for a more accurate assessment of site occupation.

Smith et al. (1986:Pl. 49) indicate that the site is located atop a portion of a relict beach ridge. There is considerable confusion regarding the origin of this landform, however. McIntire (1958:73) was the first to discuss the various possibilities:

West of Bayou Du Large there is a line of sites [16 TR 4, 47, 49, 66, and 77] which may be based on either former lake beaches or natural levees. They are extensive, elongated accumulations of shell with sparse Indian cultural remains found in some sections. The shell is predominantly *Rangia* with few *Ostrea* or *Unio* present.

Weinstein and Gagliano (1985:122, 141) followed McIntire's suggestion that these sites were situated atop a reworked shell beach. They argued, also, that the beach ridge features were remnants of the Maringouin Delta lobe (ca. 9000 to 6500 B.P.), forming after the delta had been transgressed by rising sea level. Subsequently, Smith et al. (1986:64, Pl. 49) also have suggested that these sites are based on a subsided beach ridge, but that the ridge actually represents the remains of the reworked Teche Delta lobe (ca. 5800 to 3500 B.P.). As noted the actual creation, distribution, and age of this beach ridge is one of the research topics to be addressed later in the present study.

Smith et al. placed two cores into the shell ridge at the location of the Bayou Penchant site (see Smith et al. 1986:Pl. 49, Cores SI-1 and BDL-20). Core SI-1 was situated along the west side of the shell ridge proper, apparently at the ridge/marsh interface. It penetrated an upper layer of marsh before encountering the buried midden at about -1.6 ft. This midden extended to -3.3 ft at which point a sequence of marsh deposits was encountered down to -7.5 ft. Below this, down to -8.7 ft, the base of the core, was a deposit of silty clay interpreted as interdistributary bay fill (Smith et al. 1986:Pl. A100). One radiocarbon date of $10,060 \pm 1200$ B.P.: 8,110 B.C. (TX-5187) was obtained on hemie peaty muck from a depth of -6.5 to -6.7 ft (Smith et al. 1986:Pls. B1, B36). Because of the earliness of this date, it was considered unreliable and not used by the authors in their attempt to date features in the area.

The second core, BDL-20, was placed down along the edge of Bayou Penchant just east of the southern ridge extension. The sequence uncovered in this core was somewhat different than that revealed in Core SI-1: 0 to -2.0 ft, marsh organics; -2.0 to -5.8 ft, natural levee clays, silts, and silty clays; -5.8 to -9.5 ft, peats, clays, and silts, interpreted as marsh deposits (Smith et al. 1986:Pl. A99). A radiocarbon date was run on a peat layer, between -6.2 and -6.7 ft, immediately underlying the natural levee deposits, producing an age of 2890 ± 760 B.P.: 940 B.C. (TX-5186) (Smith et al. 1986:Pls. B1, B49). It is unknown whether this date can be utilized to date the shell ridge, or only the Bayou Penchant natural levee. If the shell ridge actually overlies the natural levee deposits, then it can be argued that the ridge must postdate the levee. If, however, the natural levee only lapped up on to a pre-existing beach ridge, then the ridge could be considerably older. Obviously, more cores are needed before the true situation can be interpreted correctly. Particularly important would be a core that penetrates through the center of the ridge to determine exactly what deposit lies immediately beneath the shell.

Present Description

Today the site is marked by a prominent, oak-and-hackberry-covered *Rangia* shell ridge that supports several fishing and hunting camps and measures approximately 3 ft high, 550 ft long, and 150 ft wide at its widest point (Figures 6-6, 6-7, and 6-8). At its northern end is a partially submerged extension that is almost certainly part of the site, while another elevated shell ridge is located about 200 ft to the south-southwest, and connected to the main ridge by a subsided ridge segment marked by cypress trees and other swamp vegetation. This southern ridge failed to produce any artifacts, so it is uncertain whether it represents a continuation of the



Figure 6-6. Tree-covered shell ridges at the Bayou Penchant I site (16 TR 47). View to the north-northeast. Date: 3/31/87.



Figure 6-7. Close-up view of the northern shell ridge at the Bayou Penchant I site (16 TR 47). Looking to the northwest. Date: 3/31/87.

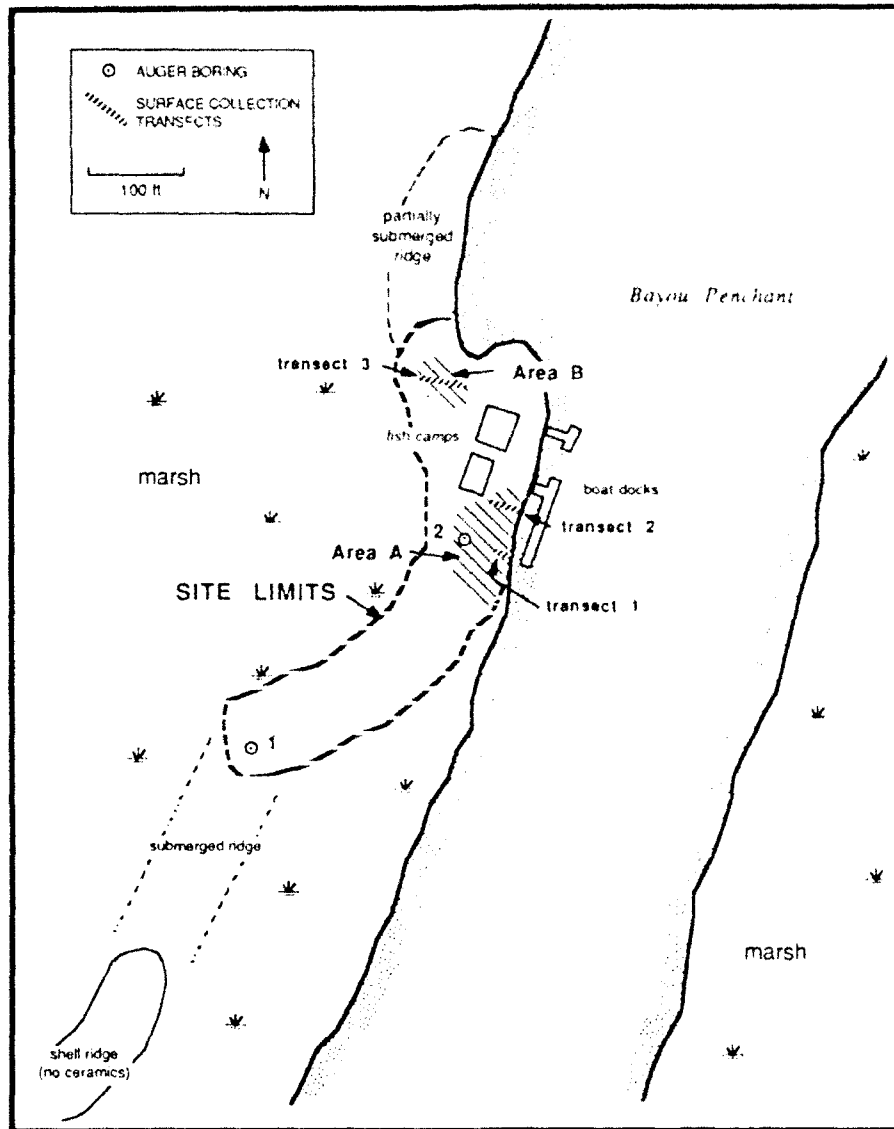


Figure 6-8. Sketch map of the Bayou Penchant I site (16 TR 47), showing auger boring locations, surface collection areas, and collection transects.

main shell midden, or is a natural beach ridge. Whatever the case, these ridges may be the two "extensions" noted on the site form.

Although artifacts were sparsely scattered over most of the main shell ridge, two ceramic concentrations were noted and labeled Areas A and B (see Figure 6-8). While Area A was represented only by artifacts, Area B may actually mark the location of a small mound built atop the ridge. It covered an area about 30 by 60 ft in size and was composed of slightly less-compacted shell.

General surface collections were made in each area, along with three transect collections, two in Area A and one in Area B (see Figure 6-8). There were no significant

differences noted between the two types of collections, however, so they are combined, by area, in Tables 6-3 and 6-4. Clearly, however, there are differences between the two areas, and there certainly is a major difference between these collections and those reported by McIntire. Selected sherds from both the CEI and McIntire collections are shown in Figure 6-9.

The collection from Area B (see Table 6-4 and Figure 6-9, A), the possible low mound, represents what is most likely a pure Plaquemine culture occupation of the early to mid-Mississippi period. The collection from Area A, on the other hand, is somewhat later, representing a late Mississippi period occupation (see Table 6-3 and Figure 6-9, E).

Of interest in the collection from Area A are six sherds classed as Mississippi Plain, *var. unspecified* which contain small amounts of grog mixed in a paste tempered predominantly with crushed shell. Perhaps, by definition, these sherds would fit into the type Addis Plain. However, they contain an overwhelming percentage of shell, and Mississippi Plain seems a more reasonable category in which to place them. Conversely, three of the *unspecified* sherds of Addis Plain from the same area are noteworthy for their low frequency of crushed shell and a greater quantity of grog tempering. The shell fragments are quite large and distinctive, however, and undoubtedly represent crushed *Rangia*. The only other sherd worthy of comment is that of Old Town Red, also from Area A. Based on the definition provided by Williams and Brain (1983:192-193) it would be most similar to *var. Sharbrough*, although *unspecified* seems a safer bet at this point, especially when one considers the distance between the Lake George site and Bayou Penchant I.

Since the present collection differs so dramatically from that presented by McIntire (1958:Pl. 13), and since there is an obvious problem with the latter's analysis, the original McIntire and Kniffen material, now housed at the LSU Museum of Geoscience (Catalogue No. 52-363), was reanalyzed for the present study. In reality, there are two bags of material from 16 TR 47. One with McIntire and Kniffen's catalogue number and the other simply with the site number. Whether the latter is actually part of McIntire and Kniffen's material, or represents a later, uncatalogued collection, cannot now be determined. To distinguish the two does not seem important, however, since they are basically the same and clearly are from the same site. Whatever the case, the LSU collections are presented in Table 6-5. Again, the ceramics indicate relatively late occupations, almost certainly confined to the Mississippi period. This would include the sherds of Baytown Plain, as well, since it appears that this type persisted into the Plaquemine culture in this part of coastal Louisiana. Notable sherds include several of Mississippi Plain with the same large *Rangia* shell tempering as noted in the CEI collection from Area A, and the sherd of *Bayou Goula* (see Figure 6-9, D) which is from a shallow bowl with paste equivalent to the *Greenville* variety of Addis Plain.

As with the CEI collections, two components are recognizable. One of the early- to mid-Mississippi period, Plaquemine culture, marked by the sherds of *Manchac* (see Figure 6-9, B), *Plaquemine* (see Figure 6-9, C), and probably all of the Baytown Plain and some of the Addis Plain. The second of the late Mississippi period, possibly equivalent to what Phillips (1970:949-950) has termed Delta Natchezan, although a strong Mississippian cultural cast is evident. Key elements in this component are the sherds of Fatherland Incised, Barton Incised, Bell Plain, and Mississippi Plain. When the sherd of Old Town Red from CEI's collection is added, the Mississippian influence becomes even stronger. Perhaps this actually is a late Bayou Petre assemblage with a few Natchezan sherds present as portions of trade vessels.

Whatever the true situation may be, one thing is abundantly clear. The site is late and does not contain Marksville, Baytown, or Coles Creek components as McIntire (1958) and Weinstein and Gagliano (1985) reported.

Table 6-3. Ceramic Counts and Percentages for the Bayou Penchant I Site (16 TR 47), Area A Surface Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Addis Plain <i>var. unspecified</i>	0	4	4	10.5	--
Baytown Plain <i>var. unspecified</i>	0	8	8	21.1	--
Leland Incised <i>var. Williams (?)</i>	0	1	1	2.6	50.0
Mississippi Plain <i>var. unspecified</i>	0	24	24	63.2	--
Old Town Red <i>var. unspecified</i>	0	1	1	2.6	50.0
Total	0	38	38	100.0	100.0

Table 6-4. Ceramic Counts and Percentages for the Bayou Penchant I Site (16 TR 47), Area B Surface Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Addis Plain <i>var. Greenville</i>	0	1	1	12.5	--
Baytown Plain <i>var. unspecified</i>	0	4	4	50.0	--
Chevalier Stamped <i>var. Lulu</i>	1	0	1	12.5	33.3
Plaquemine Brushed <i>var. Plaquemine</i>	1	0	1	12.5	33.3
Unclassified incised on Baytown paste	0	1	1	12.5	33.3
Total	2	6	8	100.0	99.9

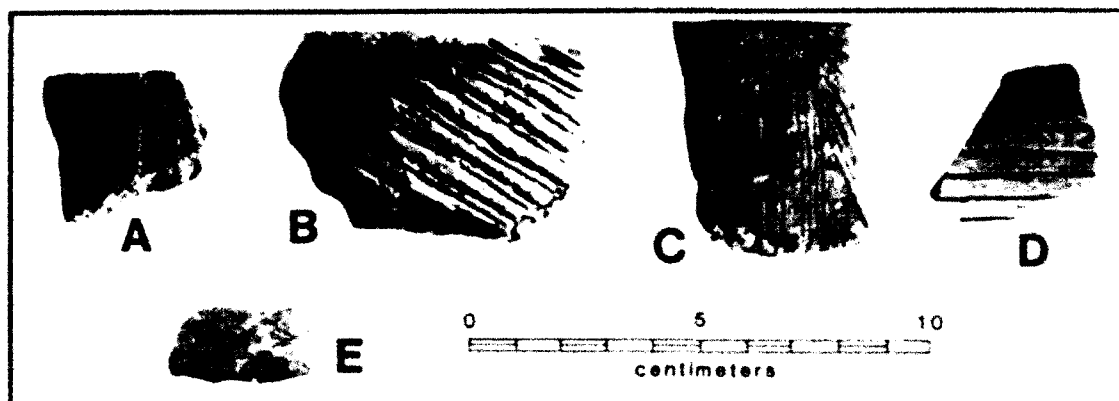


Figure 6-9. Aboriginal ceramics from Bayou Penchant I (16 TR 47). A) Chevalier Stamped, var. *Lulu*; B) Mazique Incised, var. *Manchac*; C) Plaquemine Brushed, var. *Plaquemine*; D) Fatherland Incised, var. *Bayou Goula*; E) Leland Incised, var. *Williams* (?). (A, CEI Area B; B-D, LSU collection; E, CEI Area A.)

Table 6-5. Ceramic Counts and Percentages for the Bayou Penchant I Site (16 TR 47), LSU Collections.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Addis Plain var. <i>Addis</i>	0	2	2	2.5	--
Baytown Incised var. <i>unspecified</i>	0	1	1	1.3	11.1
Bell Plain var. <i>unspecified</i>	0	2	2	2.5	--
Baytown Plain var. <i>unspecified</i>	2	50	52	65.8	--
Fatherland Incised var. <i>Bayou Goula</i>	1	0	1	1.3	11.1
var. <i>unspecified</i>	0	1	1	1.3	11.1
Mazique Incised var. <i>Manchac</i>	1	1	2	2.5	22.2
Mississippi Plain var. <i>unspecified</i>	0	14	14	17.7	--
Plaquemine Brushed var. <i>Plaquemine</i>	0	1	1	1.3	11.1
Unclassified incised on Baytown paste	0	2	2	2.5	22.2
on Greenville paste	1	0	1	1.3	11.1
Total	5	74	79	100.0	99.9

Lastly, two auger borings were placed down at the site (see Figure 6-8). Unfortunately, neither could penetrate more than 5 ft through the ridge, although shell clearly continued below that depth. About the only positive accomplishment of the auger borings was the identification of the midden matrix as a dark gray (7.5YR 4/0) silty clay.

Comments and Recommendations

Bayou Penchant I is a late prehistoric (ca. A.D. 1200 to 1700), intact shell midden that may also contain a low mound at its northern end. Based on its size and the relative limited span of time during which it was occupied, it may be reasonable to suggest that the site served as a small village or hamlet during its use. Then, again, it may also be possible that much of the shell is natural beach deposit and the actual cultural accumulation is much less than it appears. Without detailed excavation and/or coring, however, this cannot be adequately determined. The site is undoubtedly important in terms of National Register criteria, and should be considered eligible for the Register.

ST. PAUL BAYOU (16 TR 60)

Location and Previous Description

This site is situated in the Lake Hatch Oil and Gas Field, about 1.35 mi south of the GIWW, 1.6 mi west of Bayou Mauvais Bois, and 1.05 mi southeast of the southeastern tip of St. Paul Bayou. This is approximately 0.5 mi southeast of the location shown on maps at the LDA.

The site was located by Randolph Bazel in 1936 and reported to McIntire in 1952, at which time Bazel's original collection was catalogued into McIntire's LSU system (Catalogue No. 52-396). Bazel's description, reported on a site form filed in August 1952, states that the site was a dredged shell midden found by the presence of sherds and shell in a spoil bank along the edge of a canal (LDA site form). It is apparent by a review of 1955 aerial photographs that the canal at the time of Bazel's visit was much smaller and narrower and only recently has been enlarged in the wake of increased oil and gas exploration.

McIntire (1958) incorporated the site into his important paleogeographical study, illustrating it as a shell midden (Pl. 2), as an initial occupation Troyville site (Pls. 5, 10, and 12), and as a site which produced French Fork Incised pottery (Pl. 6). He also provides an analysis of the limited amount of decorated ceramics recovered by Bazel in 1936 (McIntire 1958:Pl. 13):

<i>Type</i>	<i>Percentage</i>
French Fork Incised	50.0
Yokena Incised	50.0

Based on this analysis, it is easy to see how McIntire identified the locale as a Troyville period component. As will be seen, however, this is far from the true situation.

Following McIntire, the next mention of 16 TR 60 is by Neuman (1977:23) who lists the site as a shell midden of the "Troyville-Coles Creek" period. By extending McIntire's Troyville component into a hyphenated culture period of longer duration, Neuman has brought the temporal range of the site towards more recent times, something quite opposite of the actual situation. Lastly, Weinstein and Gagliano (1985:141, Figs. 7, 8, and 9) identify the site as a Marksville period initial occupation locale (based on McIntire's sherd of Yokena Incised), and as the locus of succeeding components of the Coles Creek and Baytown periods (based on the

sherd of French Fork Incised, and Neuman's assessment of the components). As will be seen, the Marksville component is more in line with the actual occupation, but the later components are a result of the erroneous data supplied by McIntire and Neuman.

According to Smith et al. (1986:Pl. 44), the St. Paul Bayou site is located adjacent to a Lafourche distributary channel that left Bayou Black about midway between Mandalay and Humphreys. Undoubtedly the site is associated with the now-subsided natural levees of this channel. It is interesting to note that Weinstein and Gagliano (1985:141) argue that the site is related to a crevasse channel off of the old Teche-Mississippi course at a time when the course was reoccupied by the Red River.

Present Description

Today, the St. Paul Bayou site is represented by two separate scatters of *Rangia* shell along the south bank of an oil-field access canal (Figures 6-10 and 6-11). As noted, this canal has been widened significantly since it first was dredged over 50 years ago.

Neither of the shell deposits is very large, measuring only about 70 ft long by 15 ft wide, and only the eastern scatter produced cultural material: one sherd of Baytown Plain, *var. unspecified*. Nevertheless, a series of probes and/or auger borings was placed down in each locale in an attempt to locate buried midden. Only in the eastern area was such a deposit identified (see Figure 6-10), although one probe in the western area may have hit a buried shell lens at about -2.5 ft. Given the fact that the buried shell in the eastern area was consistently hit

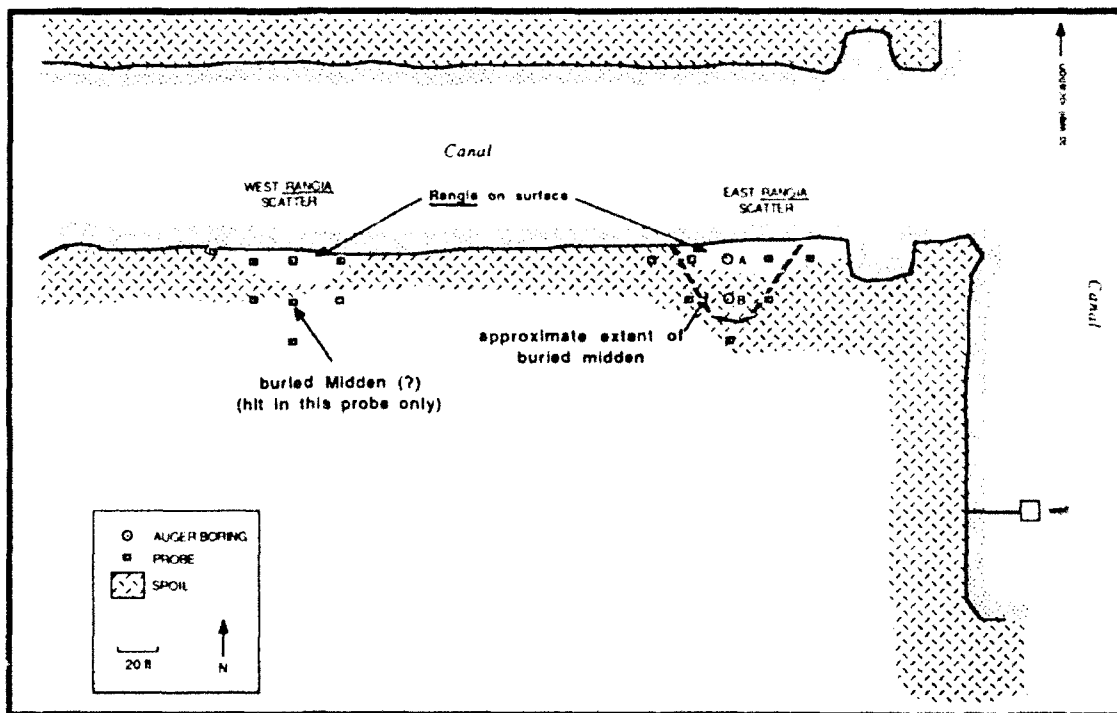


Figure 6-10. Sketch map of the St. Paul Bayou site (16 TR 60), represented by two areas of surface *Rangia* shell and a buried midden deposit along the south side of an oil-field access canal. Auger boring and probe locations are shown.



Figure 6-11. Exposed *Rangia* midden deposit along the south bank of an oil-field canal at the St. Paul Bayou site (16 TR 60). View to the south-southwest. Date: 11/14/86.

at depths of between 4.5 and 5.0 ft, it seems likely that shell at such a shallow depth in the western location may simply be mixed in canal spoil.

Auger Boring B in the eastern area provides the best data on site stratigraphy: 0 to -1.4 ft, black (2.5Y 2/0) clay with oxidation streaks; -1.4 to -4.6 ft, dark gray (2.5Y 4/0) clay; -4.6 to -4.9 ft, very dark gray (2.5Y 3/0) clay with *Rangia* shell and charcoal flecks; -4.9 to -5.5 ft, very dark gray (2.5Y 3/0) clay; -5.5 to -6.0 ft, black (2.5Y 2/0) peat. The upper stratum is interpreted as canal spoil, the second stratum as swamp deposits, while the third stratum is the midden. Beneath the midden is a thin stratum of probable natural levee clay, followed by a peat lens that may represent a prelevee marsh or simply an organic layer interbedded within the levee. Considering the thinness of the levee stratum, the latter possibility seems more likely.

Once fieldwork was completed, the original Bazet collection was borrowed from the LSU Museum of Geoscience and reanalyzed for the present study. The results are presented in Table 6-6, while selected sherds are illustrated in Figure 6-12. Obviously, the present interpretation is significantly different from McIntire's analysis. What he identified as a Troyville component is now clearly early Marksville. In addition, since McIntire did not report plain pottery, he also missed the Tchefuncte component, small as it might be. It is also somewhat of a puzzle as to which sherd of Marksville Incised McIntire classified as French Fork. Both sherds are from the same vessel, a slightly restricted subglobular bowl with a line-filled scroll design.

Overall, St. Paul Bayou was occupied initially during Tchula times, probably late in that period, followed by an early Marksville occupation which, although represented by only a

Table 6-6. Ceramic Counts and Percentages for the St. Paul Bayou Site (16 TR 60), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain					
<i>var. Marksville</i>	0	1	1	12.5	--
<i>var. unspecified</i>	1	3	4	50.0	--
Marksville Incised					
<i>var. Marksville</i>	1	1	2	25.0	100.0
Tchefuncte Plain					
<i>var. Tchefuncte</i>	0	1	1	12.5	--
Total	2	6	8	100.0	100.0

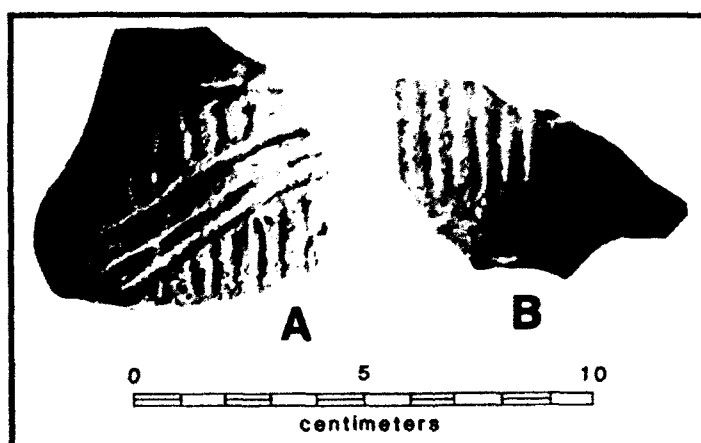


Figure 6-12. Aboriginal ceramics from St. Paul Bayou (16 TR 60). A-B) Marksville Incised, *var. Marksville* (both from same vessel). (Both from LSU collection.)

few sherds, is one of the most reliable early Marksville components recognized within the present study area. The late Marksville, Troyville (Baytown), and Coles Creek components plotted by McIntire (1958), Neuman (1977), and Weinstein and Gagliano (1985) may now be dismissed entirely.

Comments and Recommendations

Although this site was badly damaged by canal excavation, it still apparently retains a small portion of intact midden. Because of that and the fact that it contains relatively early components, it is considered potentially eligible for the National Register. The fact that a Tchula period component is present, also argues that the site is associated with a Teche, rather than a Lafourche, distributary channel.

Although it is difficult to determine the original size and function of the site, considering its present condition, it may be suggested that the site never was particularly large or more material would have been located when the site was first dredged. Thus, it seems likely that St. Paul Bayou represents the remains of a fishing and/or shellfish collecting station dating between about 200 B.C. and A.D. 200.

CARRION CROW BAYOU/LOVELL ISLAND (16 TR 65)

Location and Previous Description

This site originally was reported by McIntire in August 1952 as a shell "ridge (midden)" situated along an ancient stream scar north of Carrion Crow Bayou (LDA site form). Modern maps of the area identify the bayou by the name "Carencro" and the site as "Lovell Island" (USGS Carencro Bayou, LA, 7.5-minute quadrangle), thus the dual name for the locale. No other information is provided by McIntire, although he picked up a small collection during his visit. The site is shown only on the general site-distribution map in his 1958 study.

Phillips (1970:Fig. 446) shows the site as a Bayou Cutler component of the Coles Creek period, although it is uncertain how he obtained this information. Perhaps Phillips had access to McIntire's original ceramic analysis, something which did not appear in the latter's (Pl. 13) study. Whatever Phillips' method, both Neuman (1977:23) and Weinstein and Gagliano (1985:143, Fig. 9) followed suit, each listing the site as a Coles Creek period component. Weinstein and Gagliano (1985:143) further suggest that the site, along with 16 TR 66 to the west, may actually be situated atop a portion of the relict beach ridge which is so prominent in the area.

Along similar lines, Smith et al. (1986:Pl. 48) identify Lovell Island as "inland swamp," and show a Teche distributary channel intersecting the island from the northwest. The site may be resting on the natural levees of this channel, but, if so, it overlaps the old channel and rests upon both sets of natural levees.

Present Description

Lovell Island is a crescent-shape *Rangia* and oyster midden that measures approximately 550 ft north-south by 125 ft east-west and stands about 5 to 6 ft above the surrounding marsh (Figure 6-13). A circular shell mound, about 5 ft high and 50 ft in diameter, stands atop the midden at the southern portion of the island (Figure 6-14).

Several surface-collection transects were placed across both the midden and the mound (see Figure 6-13), but only Transect 6 yielded material: one sherd of Baytown Plain, *var. unspecified*. Similarly, six shovel tests were excavated into the midden in an effort to locate more material, but only Shovel Test 3 produced a sherd of Baytown Plain, *var. unspecified*. In addition, one auger boring was placed down through the top of the mound (see Figure 6-13), and yielded the following stratigraphy: 0 to -0.8 ft, *Rangia* shell in a black (2.5YR 2/1) silty clay matrix; -0.8 to -2.0 ft, *Rangia* shell and crushed bone in a very dark gray (10YR 3/2) silty clay matrix; -2.0 to -5.0 ft, *Rangia* shell in a dark reddish brown (5YR 2.5/2) silty clay matrix. The boring was terminated at 5 ft, although shell continued well below that. What is interesting is the second layer hit in the boring, which may represent the remains of a burial placed into the top of the mound.

As with other sites reported during this study, an effort was made to relocate and analyze earlier collections, particularly those of McIntire, to bolster the data acquired by CEI. Thus, what appears to be McIntire's original collection (Catalogue No. 52-406) was found at the LSU Museum of Geoscience. The collection was in a bag labeled "TR 65," but neither the

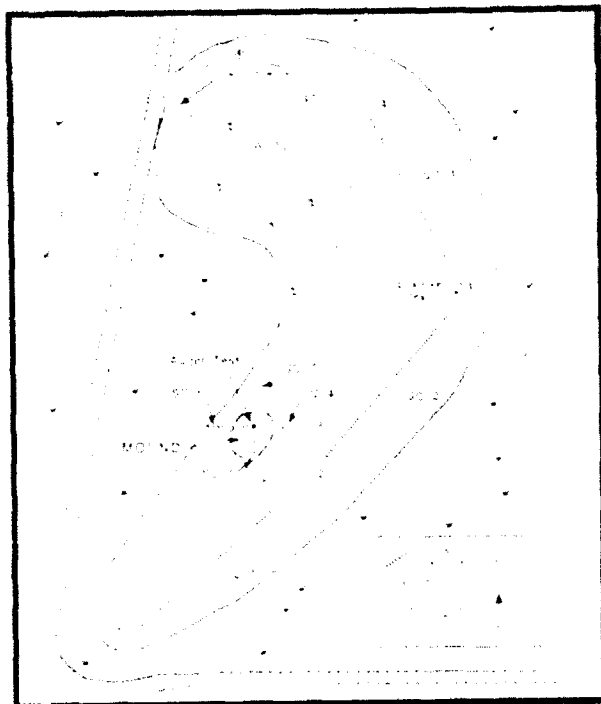


Figure 6-13.

Sketch map of the Carrion Crow Bayou/Lovell Island site (16 TR 65), showing the small mound atop the "island," the various surface collection transects, and auger boring and shovel test locations.



Figure 6-14. Shell mound at the Carrion Crow Bayou/Lovell Island site (16 TR 65). View to the southwest. Date: 12/11/86.

bag nor any of the artifacts had catalogue numbers. The collection is presented in Table 6-7. A probable late Coles Creek or transitional Coles Creek/Plaquemine assemblage is evident. Of interest is the unclassified incised sherd which occurs on very fine paste that is most similar to Addis Plain, *var. Junkin*.

Comments and Recommendations

This site probably represents a moderate-size village that probably was active sometime between A.D. 1000 and 1200, at least. The presence of a mound suggests that it may have been a relatively prominent locale. Whether earlier components are present, is not known, but, given the overall midden thickness of 6 ft or more, such a possibility is likely.

The site undoubtedly is eligible for inclusion in the National Register of Historic Places.

MINORS CANAL (16 TR 69)

Location and Previous Description

The Minors Canal site was first recorded by McIntire in the early 1950s, probably 1952 as a collection acquired at the locale was given Catalogue No. 52-418. It was described as a shell midden on a natural levee ridge, at the "bench mark where Minors Canal crosses Marmande Ridge" (LDA site form). This description is accurate, although it should be noted that the site actually occurs on both sides of Minors Canal along the levee south of Marmande Bayou.

McIntire apparently failed to locate any diagnostic artifacts, for the site appears only as a shell midden on his (McIntire 1958:Pl. 2) site-distribution map. Later authors failed to provide any additional information. In fact, the locale is not even listed in Neuman's (1977:21-23) compilation of Terrebonne Parish sites.

Table 6-7. Ceramic Counts and Percentages for the Carrion Crow Bayou/Lovell Island Site (16 TR 65), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain					
<i>var. Little River</i>	1	11	12	14.8	--
<i>var. unspecified</i>	1	65	66	81.5	--
Plaquemine Brushed					
<i>var. Plaquemine</i>	0	1	1	1.2	33.3
Pontchartrain Check Stamped					
<i>var. Pontchartrain</i>	0	1	1	1.2	33.3
Unclassified incised on <i>Junkin</i> -like paste	0	1	1	1.2	33.3
Total	2	79	81	99.9	99.9

In August 1984, the site was revisited and reportedly tested by Robert H. Baumann in conjunction with the survey of a nearby weir location (McIntire and Baumann 1984). Baumann reported that the site consisted of a surficial accumulation of *Rangia* shell on the east bank of Minors Canal which measured about 60 ft along the bank by 18 ft back from the bank (McIntire and Baumann 1984:10). At the northern end, he reported a portion of apparently intact midden about 1.5 ft thick. On the west bank of Minors Canal, only very sparse scattered *Rangia* were noted. Baumann apparently made a small collection, as an updated site form filled out for the project notes the presence of bone and pottery, but none are described specifically (LDA site form). While at the site, Baumann dug "Numerous shovel tests and two one-meter square pits . . ." in an effort to determine whether or not any in situ midden remained (McIntire and Baumann 1984:10). Considering that Baumann spent only one day in the field (including his weir survey and testing of 16 TR 69), and does not present the results of his test pits, it would appear that his excavations were relatively rapid affairs that may not have been dug according to proper archaeological procedures. It is little wonder, therefore, that he was unable to determine if the midden was in situ.

Regardless, the Minors Canal site is located, as noted, along Marmande Ridge, a prominent set of natural levees paralleling Marmande Bayou. The latter clearly is a crevasse channel off of Bayou du Large, and, as such, has been identified as a Lafourche-age distributary by Smith et al. (1986:Pl. 50). In fact, the Marmande distributary leaves Bayou du Large at the location of the Bayou du Large/Marmande Plantation site (16 TR 19). As reported earlier, this site is one of the few locales in the area with a well-preserved platform mound.

Present Description

The Minors Canal site was visited twice during the Terrebonne marsh sample survey, once by the boat crew surveying the high-probability segment of Minors Canal which cuts Marmande Ridge, and again by the terrestrial crew which was travelling to a nearby transect just west of Minors Canal. Each crew examined different portions of the site on different sides of Minors Canal. Thus, each side is considered separately below. This is somewhat fortunate, as the occupations on each side of the canal are extremely different.

The eastern part of the site, as noted above, is the locus of almost all of the prehistoric *Rangia* midden. Figure 6-15 is a compass and tape map of this area. It shows a surface scatter of shell that measures approximately 75 ft long by 15 ft wide at its widest point, dimensions which match very well with those provided by Baumann. Unlike Baumann's description, however, it appears that intact midden is present for approximately 40 ft along the bank, although it is relatively narrow, measuring only about 2 to 3 ft wide. A 10-ft-long profile was cleared along the bank (see Figure 6-15) and is illustrated in Figure 6-16. It shows a midden about 1 ft thick, overlying natural levee clay. As no obvious spoil deposits were noted along the canal bank, it seems likely that this thin lens of shell is, indeed, in situ midden. Several probes and one auger boring confirmed that the apparent in situ remains are confined to the area along the bank. Parenthetically, it should be noted that no evidence of Baumann's test pits could be found.

Only one artifact was found on the surface of the east bank, a sherd of Baytown Plain, *var. unspecified*. However, the paste is relatively compact and approaches the quality of Addis Plain, suggesting that this portion of the site may date to late Coles Creek or early Mississippi period times. This is logical if one assumes that sites along Marmande Ridge served as small camping and/or collecting areas related to what must have been a prominent late Coles Creek/Plaquemine village at 16 TR 19. Unfortunately, the original McIntire collection could not be relocated at the LSU Museum of Geoscience, so it is not possible to expand on this possibility.

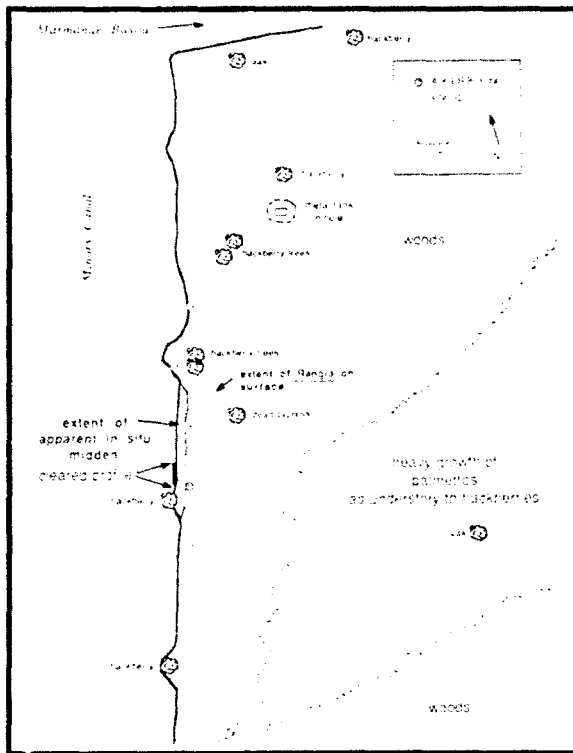


Figure 6-15.

Sketch map of the eastern portion of the Minors Canal site (16 TR 69), showing extent of intact midden and the location of the auger boring, probes, and bankline profile.



Figure 6-16. Shell midden exposed in the bank of Minors Canal at the Minors Canal site (16 TR 69). View to the east. Date: 11/18/86.

Figure 6-17 shows the site situation west of Minors Canal. Basically, this area is dominated by historic material, probably the remains of early-twentieth-century house sites associated with past agricultural activities along Marmande Ridge. Only near the canal bank proper was a very sparse scatter of *Rangia* shell noted. This undoubtedly is shell from the same midden as that located on the east bank, but it has been redeposited by canal dredging along the west bank.

The historic material covers an area about 240 ft long by 120 ft wide. In the northeast corner is a series of old plow scars, indicating that the area once contained a small cultivated plot. A concentrated area of brick rubble near the center of the site may mark the former location of a house chimney. Two USGS bench marks are located on the site, both are dated 1934, and undoubtedly represent the bench mark noted by McIntire in the early 1950s.

In order to get a better idea of the extent and intensity of the occupation, a series of surface collection transects and shovel tests were placed down over the site (see Figure 6-17).

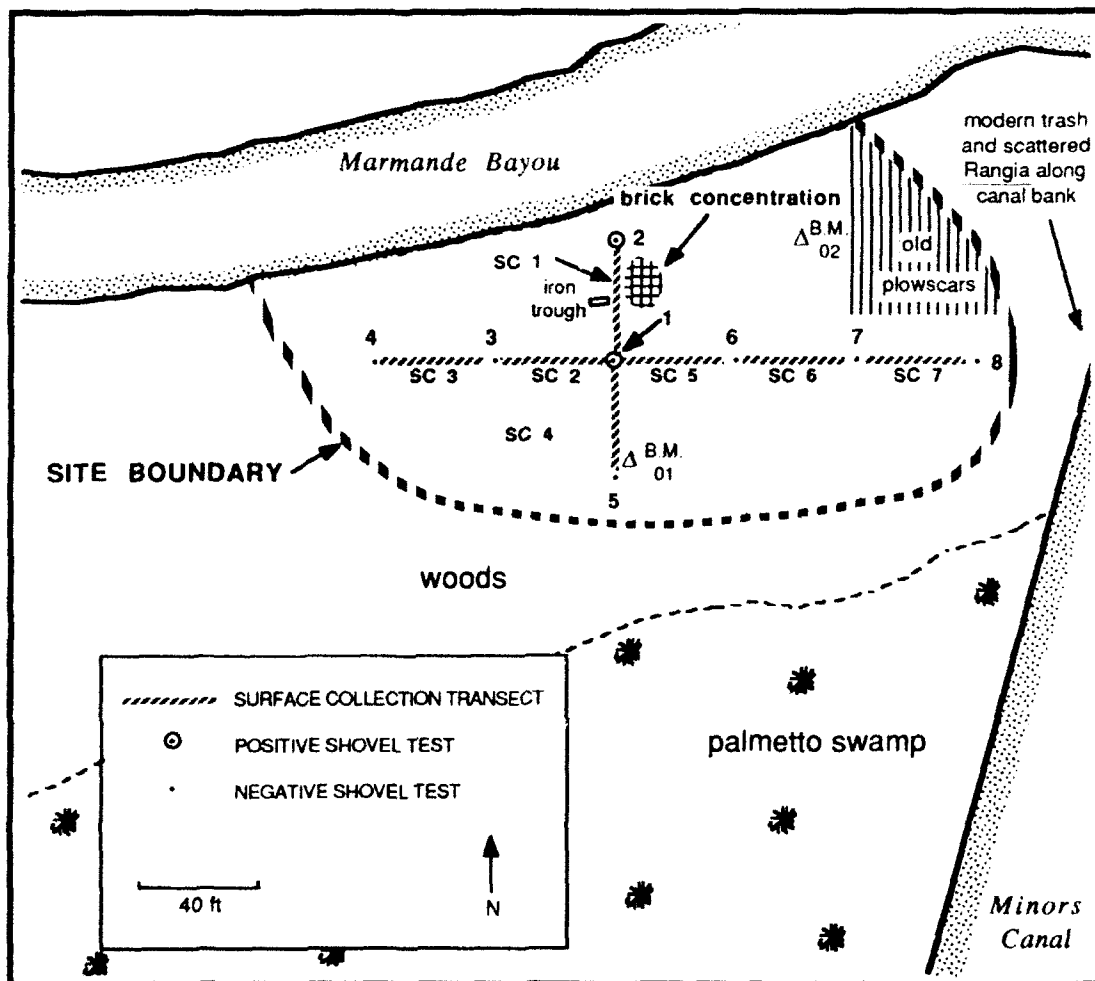


Figure 6-17. Sketch map of the western portion of the Minors Canal site (16 TR 69), showing extent of historic material, collection transects, and shovel test locations.

Only Shovel Test 2 produced any material, a single piece of lamp-chimney glass, while the results of the surface collections are provided in Table 6-8. Clearly, Transects 1 and 2 produced the most material, which, along with the possible collapsed chimney base located just east of Transect 1, indicate that this area most likely was the locus of at least one structure.

Overall, 45 historic artifacts were recovered. All appear to date from the first half of the twentieth century. The only dateable artifacts observed were glass fragments manufactured by an automatic bottle-making machine, which was invented in 1903. The fact that domestic material, such as ceramic vessels and glass bottles, were collected also argues in favor of the site representing a former house location.

Comments and Recommendations

The Minors Canal site contains two distinct occupation areas, one partially intact *Rangia* midden possibly dating to the late Coles Creek or early Mississippi period, and the remains of at least one house dating to the early twentieth century. The latter may be related to sugarcane cultivation which is known to have occurred along the ridge in the early 1900s. In fact, the house(s) may have been the home for one or more of the workers who helped farm the ridge. A 1935 USGS map of the area does not show any houses at the site, so it can be argued, at

Table 6-8. Historic Artifacts Collected from the West Side of Minors Canal at Site 16 TR 69.

SURFACE COLLECTION TRANSECTS	ARTIFACT TYPE	CATEGORY	DESCRIPTION	NUMBER	TOTAL
1	Ceramic	Whiteware	Undecorated	1	7
		Stoneware	Bristol glazed	1	
	Glass	Clear	Unidentified	3	
			Embossed "...UR PACKING..."	1	
	Brick		Fragment	1	
2	Ceramic	Whiteware	Undecorated	6	13
		Semi-porcelain	Undecorated	1	
		Porcelain	Undecorated	1	
			Polychrome hand-painted	1	
	Glass	Opaque white	Embossed: "REG.../TRADE/MARK"	1	
		Clear	Unidentified	2	
			a.b.m.-made base with mark (Owens-Illinois Glass Co., 1929-1954; Toulouse 1971:403)	1	
3	Glass		(flat) plate fragment	1	1
4	Glass	Clear	a.b.m.-made neck	1	1
5	Ceramic	Whiteware	Undecorated	3	12
		Semi-porcelain	Undecorated	1	
	Glass	Clear	Unidentified	5	
		Blue	Unidentified	1	
		Opaque white	Unidentified	1	
	Brick		Fragment	1	
6	Glass	Clear	Coke bottle fragments	2	9
			Unidentified	7	
7	Glass		Dr. Pepper "No return" bottle	1	2
			Coca Cola "No return" bottle	1	

least, that the occupation predates the 1930s. Whether it also predates the excavation of Minors Canal, which is believed to have occurred between 1910 and 1920, cannot now be answered.

Considering that an intact shell midden exists along the east side of the canal, the site is potentially eligible for inclusion in the National Register. Remains of trash pits and privies associated with the historic occupation west of the canal may also be present, thus adding to the potential significance of the site.

MAUVAIS BOIS #3 (16 TR 192)

Location and Description

This long and impressive *Rangia* midden originally was located by Philip G. Rivet of the LDA during a brief reconnaissance survey in December 1986. It was revisited within a few weeks by the CEI terrestrial survey crew, and again in May 1987 by Weinstein (1987a) on an independent survey of the area. Data from all three visits are used to provide the current site description. It is situated on the partially subsided natural levee of a crevasse channel branching off the Bayou Mauvais Bois channel from a point just west of Peoples Canal (Weinstein 1987a:Fig. 2). Smith et al. (1986:Pl. 49) suggest that the Mauvais Bois course and its distributaries are Lafourche-age channels.

The site itself extends from a point approximately 0.64 mi southwest of the junction of Bayou Mauvais Bois and Peoples Canal for a distance of a little over 0.5 mi. For most of its length, the site is about 30 ft wide and 3 to 4 ft high, although it increases in width in places to between 60 and 90 ft. Very few artifacts are visible on the site's surface, but a good deal of burned *Rangia* shell is present.

The site was examined in some detail by the CEI survey crew. However, because of the tremendous length of the locale, only a portion about 1,000 ft long was mapped and systematically shovel tested (Figures 6-18 and 6-19). As can be seen, 10 combined shovel holes and probes were placed down at about 100-ft intervals. These consisted of the excavation of a 1-ft deep shovel hole, the contents of which were screened, coupled with the placement of a 5-ft-long probe down through the bottom of each hole. Of these, only one (Shovel Test 7) yielded anything other than *Rangia* shell: three body sherds of Baytown Plain, *var. unspecified*. Weinstein (1987a:8) had earlier found a rim sherd of Baytown Plain, *var. unspecified* from the northern end of the site, while Rivet (LDA site form) had recovered a single specimen of either Harrison Bayou Incised or Beldeau Incised. Although certainly a very limited collection, the ceramics from the site suggest, at least, a late Coles Creek period occupation. All of the probes hit shell throughout their entire lengths, indicating that the site is fairly extensive in depth as well as length.

In an effort to learn the internal stratigraphy of the site, a single auger boring was placed down in the center of the mapped portion. It yielded 0 to -3 ft of *Rangia* shell in a black (SYR 2.5/1) silty clay matrix, followed by more *Rangia* in a very dark grayish brown (10YR 3/2) silty clay matrix from -3 to -5 ft. The water table was hit at -5 ft, and the boring terminated at that point. The midden clearly is thicker.

Comments and Recommendations

This extensive shell midden is one of a series of sites located upon partially subsided natural levees of Bayou Mauvais Bois and its distributaries. It is in an excellent state of preservation, and undoubtedly represents the remains of a series of shellfish-collection episodes. It is almost certainly eligible for inclusion in the National Register. Although only a

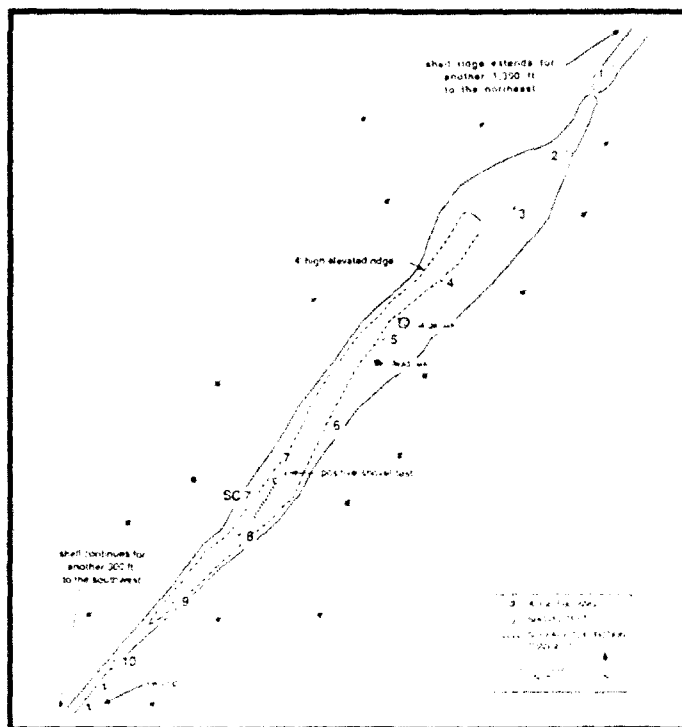


Figure 6-18. Sketch map of a portion of the Mauvais Bois #3 site (16 TR 192), showing the surface-collection transect and auger boring and shovel test locations.



Figure 6-19. View of a portion of the Mauvais Bois #3 site (16 TR 192) with marsh in the distance. Looking to the west. Date: 12/9/86.

late Coles Creek period (ca. A.D. 1000 to 1200) occupation has been identified, it is likely that other components are present as well.

MULBERRY CEMETERY (16 TR 198)

Location and Description

This historic cemetery is situated on the Bayou du Large natural levee, 0.2 mi south of the GIWW and 0.3 mi due west of the old Bayou du Large road (Figure 6-20). It is marked by a heavy growth of scrub vegetation within an old soybean field. Shallow drainage ditches are present on three sides of the cemetery, while a field road is adjacent to the northwest side. A good deal of bricks and brick fragments are present within the cemetery area, particularly along the edge of the field road, and most likely indicate the remains of collapsed burial vaults. No headstones or other evidence of cemetery-related artifacts could be found, however. Modern trash is present around the margins of the cemetery, as discarded pipe was found in the ditch on the northeast side and pieces of old automobiles were found in a shovel test placed down along the southwest side.

Based on interviews with local residents, particularly Antoinette Marmande, it was learned that the cemetery once served Mulberry Farm plantation, located about 1 mi to the southeast on Bayou du Large. The plantation was in operation by at least the early 1850s, as it appears in sugar records of that period (Champomier 1852). Mulberry Farm plantation ceased

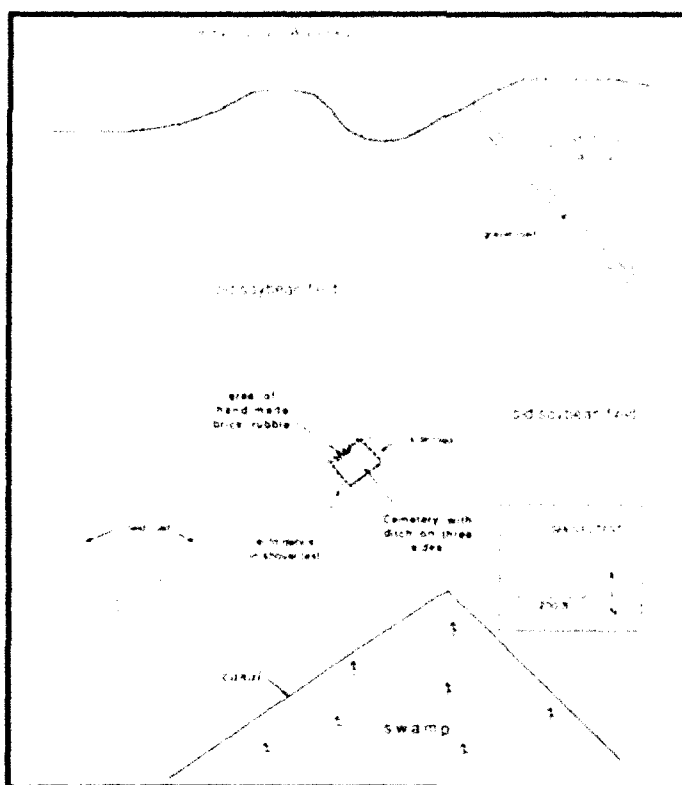


Figure 6-20. Sketch map of the Mulberry Cemetery site (16 TR 198), showing its location relative to the surrounding terrain.

operation in the 1930s, and it is likely that the cemetery was no longer used after that time. The Mulberry Baptist Church, which today is home for the old Mulberry congregation, is now located along U.S. Hwy 90 north of the GIWW.

Comments and Recommendations

Mulberry Cemetery contains the remains of residents on Mulberry Farm plantation which was in existence from the early 1850s through the 1930s. It is assumed that the cemetery dates to this time period, as well.

At present, it is uncertain whether the cemetery qualifies for the National Register. As a general rule cemeteries usually do not qualify, but exceptions have occurred (Rose 1985). Additional testing and archival research will be needed to determine the number of burials present and their exact association to Mulberry Farm plantation.

DU LARGE HOUSE (16 TR 199)

Location and Description

This site is located in a soybean field adjacent to the road which runs along the west bank of Bayou du Large, 2.43 mi north, by way of the bayou, of Marmande Canal, and 1.50 mi south, also by way of the bayou, of Duplantis Canal. It consists of a circular scatter of historic artifacts which measures approximately 140 ft east-west by 125 ft north-south (Figure 6-21).

In order to gain a better idea of the artifact distribution at the site, a series of 14 shovel tests was placed down and 14 surface-collection units were laid out. All of the positive shovel tests produced brick fragments, while Shovel Test 2 yielded an additional sherd of plain whiteware (Table 6-9). All artifacts came from within the plow zone, between the surface and a depth of 6 in. Seven of the surface-collection units produced historic material, principally brick fragments, while four yielded additional material. Only the latter is presented in Table 6-9.

The collection is generally nondescript and could date anywhere from the mid-1800s through the present. However, a review of historic maps available for the area indicates that the site probably represents the remains of one of three houses that existed at or near the locale in 1892, but which were all gone by the 1940s (USGS 1892, 1944). How much time prior to 1892 the house may have existed is not currently known.

Comments and Recommendations

This site most likely represents the remains of a late-nineteenth through early-twentieth-century house. Presently, it is not known who lived at the locale and for exactly how long. It also is not known if the site is eligible for the National Register. Although no subsurface features were encountered during the shovel-testing program, some, such as privies and trash pits, may exist and contain useful information. Thus, the site probably should be considered potentially eligible pending further investigations.

BLEUX ISLAND (16 TR 200)

Location and Description

This large *Rangia* shell midden is situated in the marsh about 1.6 mi due north of the confluence of Carencro Bayou and Little Carencro Bayou, 0.3 mi west of Little Carencro

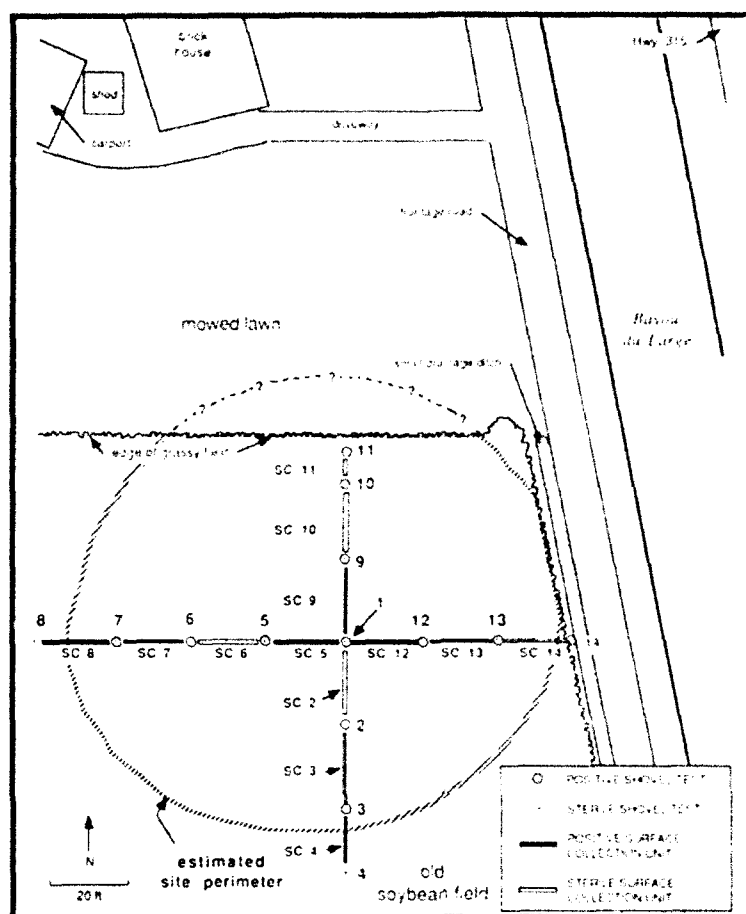


Figure 6-21. Sketch map of the du Large House site (16 TR 199), showing locations of shovel tests, surface-collection transects, and estimated extent of site.

Table 6-9. Historic Artifacts from the Du Large House Site (16 TR 199).

PROVENIENCE	ARTIFACT TYPE	CATEGORY	DESCRIPTION	NUMBER	TOTAL
Shovel Test 2	Ceramic	Whiteware	Undecorated	1	1
Surface Collection Unit 4	Ceramic	Whiteware	Undecorated	1	1
Surface Collection Unit 5	Ceramic	Whiteware	Undecorated	1	1
Surface Collection Unit 9	Ceramic	Sewer pipe	Fragment	1	1
Surface Collection Unit 12	Ceramic	Whiteware	Undecorated	2	
	Glass	Clear	Medicine bottle base	1	3

Bayou, and 0.8 mi east of Carencro Bayou. Although not recognized by Smith et al. (1986:Pl. 49) as a part of the possible beach ridge which passes through the region to the south, and earlier discussed in relation to 16 TR 4 Bleux Island may be a similar feature.

The site itself measures about 350 ft long by 125 ft wide, and rises about 6 ft above the surrounding marsh at its highest point (Figures 6-22 and 6-23). The elevated portion is covered mainly by live oak trees, while cypress trees are present in fringing areas of swamp, particularly along the north side of the rise. This swamp undoubtedly occurs on lower areas of the site that are presently too wet to support oak trees.

The elevated portion was tested to a limited extent by four combined shovel holes and probes, one auger boring, and two surface-collection transects (see Figure 6-22). The shovel hole/probes consisted of the initial excavation of a shovel test to a depth of 1 ft, followed by the placement of a 5-ft-long probe rod through the bottom of the hole in an attempt to determine the thickness of the shell. While one of the shovel tests (Shovel Test 1) produced two sherds of Baytown Plain, *var. unspecified* and one piece of bone, none of the probes was able to penetrate the shell.

An auger boring was then placed down in an effort to pierce the rise. The boring penetrated 8 ft into a solid *Rangia* deposit with a black (5YR 2.5/1) silty clay matrix. Unfortunately, it did not extend deep enough to reach the bottom of the shell.

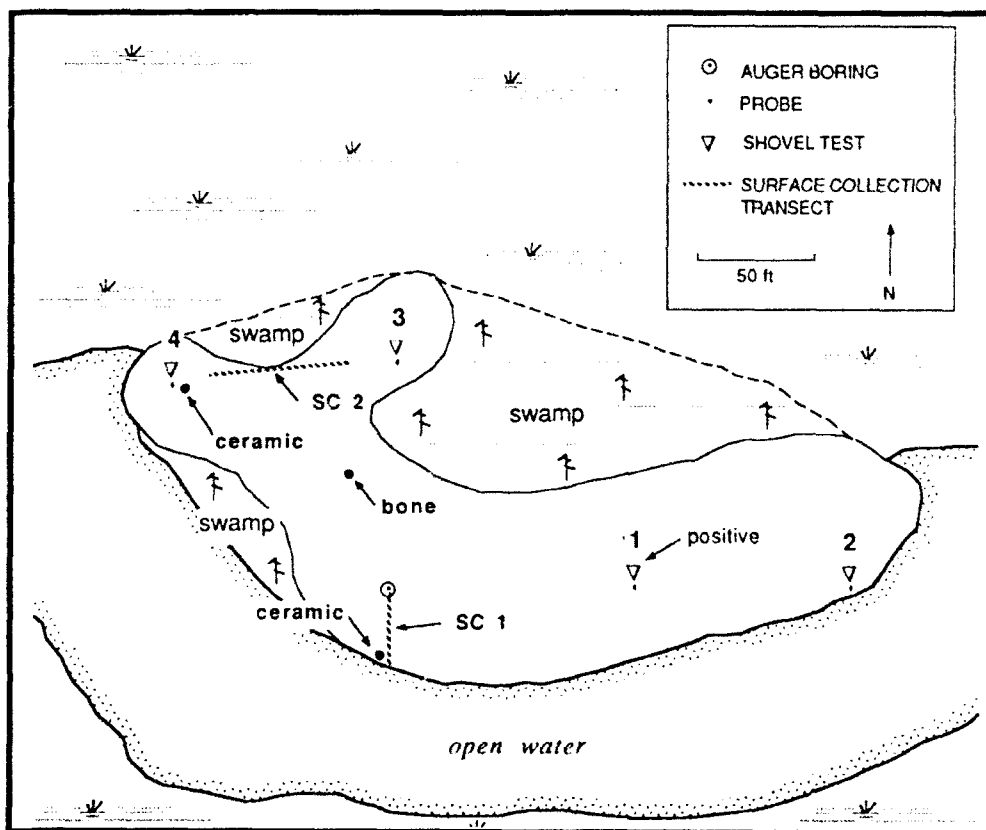


Figure 6-22. Sketch map of the Bleux Island site (16 TR 200), showing surface-collection transects, shovel tests and probes, and the auger boring.

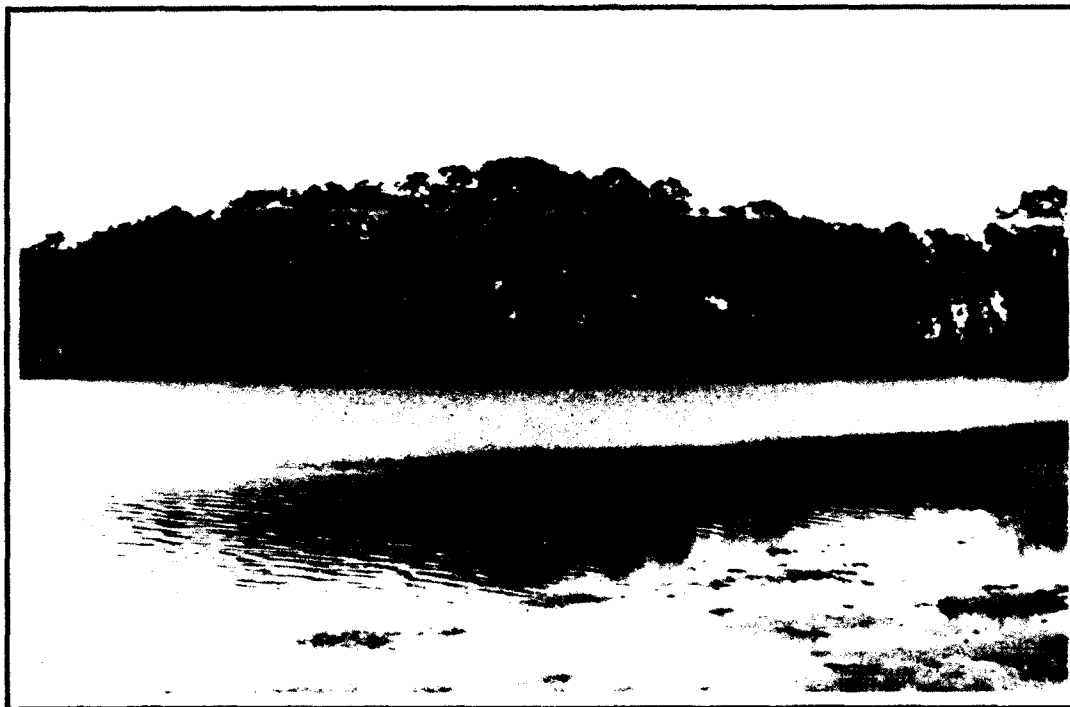


Figure 6-23. Tree-covered shell ridge at the Bleux Island site (16 TR 200). View to the north. Date: 12/8/86.

Finally, two collection transects were carefully searched, one between Shovel Tests 3 and 4 and the other between the auger boring and the south edge of the site. Each yielded an additional sherd of Baytown Plain, *var. unspecified*.

Comments and Recommendations

This massive shell midden clearly deserves added attention. The fact that it is over 8 ft thick suggests that it may actually consist of a midden atop a thicker shell beach deposit. Unfortunately, cultural interpretation cannot be made, other than to note that the locale was occupied after Tchula times. Considering its size, it may have served as a small, seasonal village designed specifically to exploit the shellfish populations of the area.

The site probably is eligible for the National Register, but additional research is most likely necessary before a definite determination can be made.

BRADY CANAL SHELL RIDGE (16 TR 201)

Location and Description

This is another massive shell-ridge site which is a part of the possible beach-ridge system noted earlier. It is located about 0.4 mi north-northwest of the junction of Little Carencro Bayou and the western end of Brady Canal, and only 0.1 mi northeast of the eastern end of site 16 TR 77.

The site itself measures about 575 ft long by 150 ft wide at its widest point, and rises to between 3 and 4 ft above the adjacent marsh (Figure 6-24). It is covered with a luxuriant

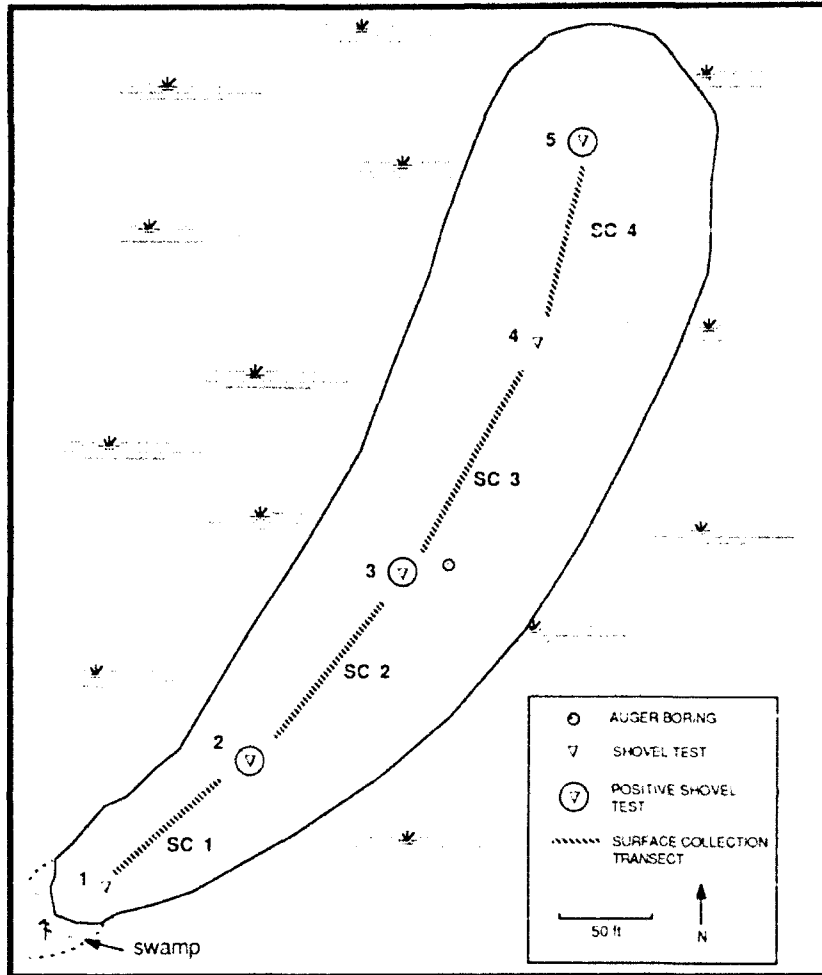


Figure 6-24. Sketch map of the Brady Canal Shell Ridge site (16 TR 201), illustrating placement of surface-collection transects, shovel tests and the auger boring.

growth of live oak trees and palmettos, a covering typical of all of the beach-ridge sites (Figures 6-25 and 6-26).

Five combined shovel hole/probes, such as those employed at 16 TR 200, were placed down at approximately 100-ft intervals across the ridge. Three of these yielded aboriginal ceramics and bone. The combined ceramic collection from the shovel tests amounted to four sherds of Baytown Plain, *var. unspecified*, of which one is highly polished and may be an example of the *Little River* variety. Unfortunately, none of the probes penetrated through the shell.

To alleviate the latter situation, one auger boring was placed down through the ridge near its center. The auger yielded the following: 0 to -3 ft, *Rangia* shell in a black (5YR 2.5/1) silty clay matrix; -3 ft to -6 ft, crushed *Rangia* shell in a gray (10YR 6/1) silty clay matrix. The

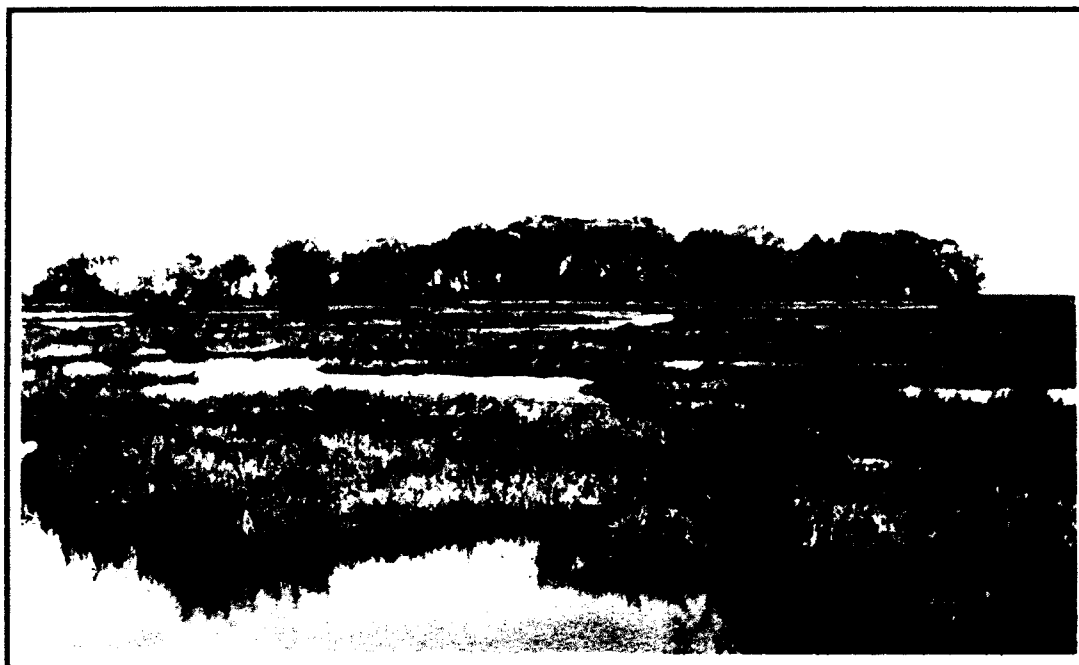


Figure 6-25. View of the Brady Canal Shell Ridge (16 TR 201), one of the possible beach-ridge features in the study area. Looking to the north-northwest. Date: 3/31/87.



Figure 6-26. Another view of the Brady Canal Shell Ridge (16 TR 201). Photograph taken from Brady Canal looking to the west-northwest. Date: 3/31/87.

boring was terminated at -6 ft without having penetrated through the ridge. Nevertheless, it is possible that the boring did hit the underlying beach ridge material, identified by the crushed shell in the lower 3 ft.

Finally, a series of four surface-collection transects was carefully searched for artifacts (see Figure 6-24). Unfortunately, only three body sherds of Baytown Plain, *var. unspecified* were located in Transects 3 and 4.

Comments and Recommendations

This is another problematic site which may be resting on an ancient beach ridge. Like those of its kind previously discussed, only further investigations will help unravel the actual situation. In that light, then, it is suggested that site 16 TR 201 is potentially eligible for the National Register.

The site may have served as a small seasonal village specifically designed for the exploitation of the surrounding marsh environment. The period of such usage is anything but clear at this point. About all that can be accurately stated is that the site has a post-Tchula period component which, based on the possible sherd of *Little River*, may date to the middle or late Coles Creek period (ca. A.D. 850-1200).

MARMANDE RIDGE CREVASSE (16 TR 202)

Location and Description

This site is situated along the south bank of Marmande Ridge at a point where the ridge makes a sharp bend to the north, about 1.0 mi due west of Minors Canal and 1.1 mi northwest of the junction of Minors Canal and Lake De Cade. Because of the bend, a crevasse channel had left the Marmande course and entered the marsh in a south-southeasterly direction. The combination of natural levees from both Marmande Ridge and its crevasse channel make the site location an ideal place for settlement. In fact, the 1964 Lake Theriot, 7.5-min quadrangle map shows a rise above 5 ft in elevation at the site. Smith et al. (1986:Pl. 50) indicate that Marmande Ridge and the crevasse are Lafourche-age distributaries.

The site itself is marked by two separate concentrations of surface *Rangia* shell within the area of an old sugarcane field (Figures 6-27 and 6-28). In fact, a canal leading west from Minors Canal and following the north edge of Marmande Ridge was dug specifically to allow access to this and adjacent fields. In the early 1900s, sugarcane from these fields was placed on barges, taken up the canal into Minors Canal, and thence to the Marmande Canal and the sugarmill at Theriot on Bayou du Large. It is uncertain when cultivation of the fields ceased, but it could not have been too long in the past, as the fields still are clear of trees and retain the crop rows.

Of the two surface shell scatters, the easternmost covers an area of about 150 by 100 ft, while the western one is about 100 by 100 ft in size. Several shovel tests within these concentrations indicated that shell extended to about 1.5 ft in depth. This may be the depth of the plow zone, indicating that most of the midden has been disturbed. None of the shovel tests located artifacts.

Two auger borings were placed down, one in each area (see Figure 6-27), in an effort to locate shell beyond the reach of the shovel tests. Both borings revealed almost identical stratigraphy: 0 to -1.5 ft, scattered *Rangia* shell in a very dark gray (5YR 3/1) silty clay matrix; -1.5 to -4 ft, brown (10YR 5/3) silty clay. The upper stratum is the disturbed plow zone, while the lower stratum is the underlying natural levee.

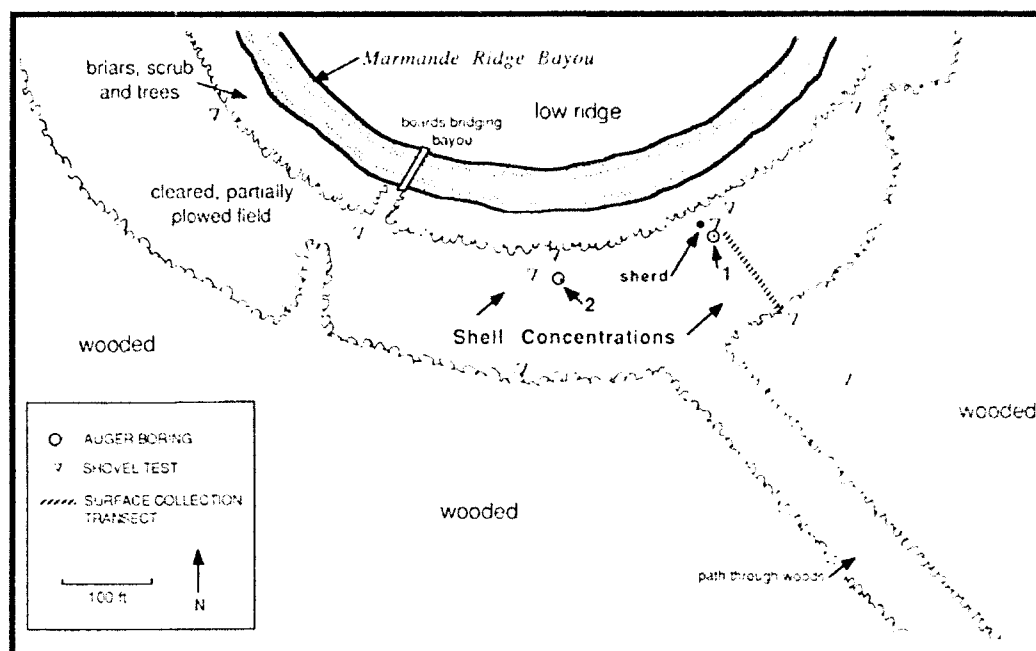


Figure 6-27. Sketch map of the Marmande Ridge Crevasse site (16 TR 202), identifying surface shell concentrations, the collection transect, shovel tests, and auger borings.



Figure 6-28. Location of the Marmande Ridge Crevasse site (16 TR 202) situated in an old sugarcane field along the south edge of Marmande Ridge. Marmande Bayou is located in the trees to the left of the crew member. View to the east-northeast. Date: 4/1/87.

Finally, a surface-collection transect was searched for artifacts within the eastern shell scatter. It yielded the only artifacts found at the site: two body sherds of Baytown Plain, *var. unspecified*. One of these is highly polished, however, and may be *var. Little River*.

Comments and Recommendations

Although this site appears to have been disturbed to a large degree by past plowing, it is possible that buried features, such as post holes, trash pits, and burials, may be present. Thus, it is recommended that the site be tested further to determine its National Register significance. For now it can be considered only potentially eligible.

Overall, there is little to say regarding the site's cultural affiliation. The presence of a possible sherd of *Little River* would tend to support a middle to late Coles Creek period occupation (ca. A.D. 850 to 1200). How the site functioned is conjectural at best at this point. Given its location and moderate size, it may have been a small hamlet associated with the more prominent mound site at 16 TR 19.

MULBERRY BRICKS (16 TR 203)

Location and Description

This site was recognized by a scatter of bricks in a field on the west side of the Bayou du Large road (Figure 6-29). It is about 0.1 mi northwest of the current cluster of buildings identified as the community of Mulberry on the 1980 photorevised, 7.5-min, Houma quadrangle. It most likely represents the remains of four houses shown in the area on the 1892 15-min., Houma quadrangle, and which then were part of Mulberry Farm plantation. As discussed for Mulberry Cemetery (16 TR 198), the plantation was in existence from the early 1850s through the 1930s.

The brick scatter at the site (Figure 6-30) covered an area measuring about 550 ft long by 250 ft wide at its widest point. Within these dimensions was a smaller scatter of *Rangia* shell that was centered along an apparent ridge, and may have been an old shell road leading to the houses. Several recent drainage ditches cut through the northwestern portion of the site, while a gravel road is present along its southern edge.

In order to obtain a better idea of the extent and artifactual content of the locale, a series of shovel tests and surface-collection transects was placed across the field. One roughly followed the central ridge, while the other hugged the north side of one of the drainage ditches. Seven of the 10 shovel tests yielded brick fragments extending in depth from the surface to, at the most, about -1.5 ft. This depth indicates the extent of the plow zone. Unfortunately, no other artifacts were recovered. Similarly, all collection transects, save SC 10, which was void of material, produced only brick fragments. This is somewhat puzzling, as the location clearly corresponds to several house sites, and domestic debris, such as ceramic, glass, and metal artifacts, should be present. Although the field was slightly overgrown at the time of the present survey, it was not considered to have poor visibility. Only additional investigations will help explain this enigma.

Comments and Recommendations

This site undoubtedly represents the remains of several late-nineteenth- and early-twentieth-century houses. At present, however, only structural debris in the form of bricks was found. Given the fact that houses were once present on the site, features such as trash pits and privies may be present. Until their presence can be confirmed or dismissed, however, the site should be considered potentially eligible.



Figure 6-29. General view of the Mulberry Bricks site (16 TR 203). Looking to the north-northeast. Date: 12/12/86.

SMALL BAYOU LA POINTE MIDDEN (16 TR 204)

Location and Description

This was, by far, the smallest site encountered during the present study. It consisted of a single shovel hole that happened to hit *Rangia* shell and one sherd of Mississippi Plain, *var. unspecified* at the very margin of the elevated portion of the Small Bayou La Pointe natural levee and its adjacent, fringing swamp (Figure 6-31). Eleven additional shovel holes, both in the swamp and on the dry natural levee, failed to locate any other evidence of the site.

As can be seen in Figure 6-31, the site was located just to the north of a prominent live oak tree, and about 550 ft southwest of the actual headwaters of Small Bayou La Pointe. More specifically, the site is 0.78 mi due west from the Lower Bayou du Large School shown on the 1980 photorevised, 7.5-min., Lake Theriot quadrangle map. Its location is just north of a small crevasse channel emanating from the Small Bayou La Pointe distributary. The latter is identified by Smith et al. (1986:50) as a Lafourche-age channel off the Bayou du Large channel proper.

Comments and Recommendations

There is little more to be said about the site, as additional research will be necessary to specifically define the limits of the shell midden. About all that can be noted, is that the one sherd collected was polished and of relatively fine quality, approaching that of the type Bell Plain. Thus, a very late Mississippi period component (ca. A.D. 1550 to 1700) may be

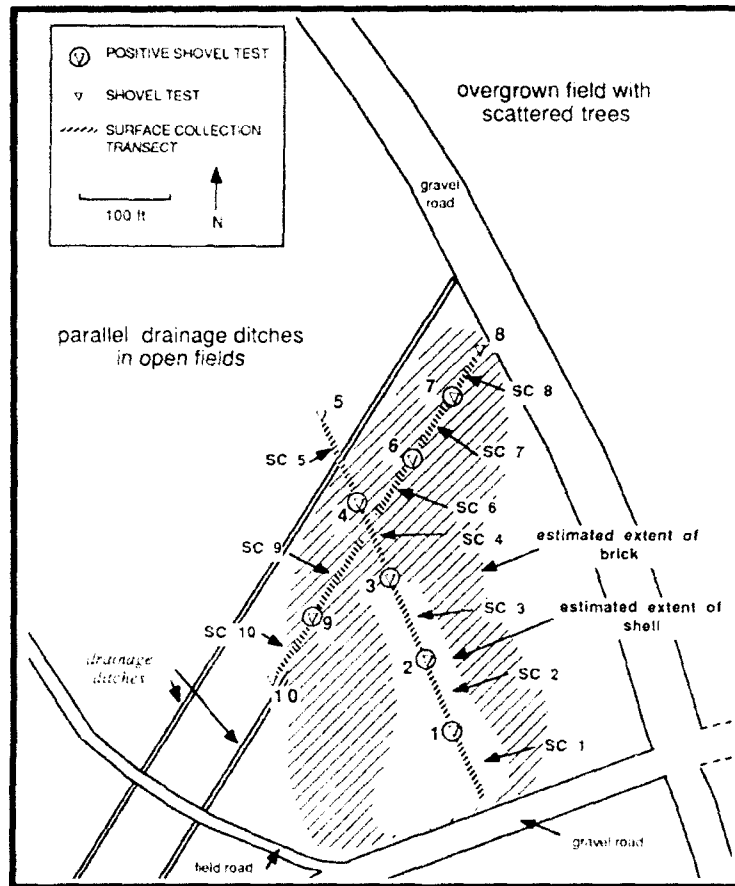


Figure 6-30. Sketch map of the Mulberry Bricks site (16 TR 203), illustrating approximate extent of surface shell and bricks, shovel tests, and surface-collection transects.

postulated. Based on the small size of the midden, it also can be assumed that the site represents a small extraction locale that probably was occupied for only a relatively brief period of time.

ORANGE GROVE FIELD (16 TR 209)

Location and Description

This site was found along the east bank of an oil-well access canal, most of which was examined as part of a high-probability survey segment. The mouth of the canal is located about 3.05 mi west of the junction of Minors Canal and the GIWW, and about 0.3 mi west of the mouth of the main canal leading from the waterway to the Orange Grove Oil and Gas Field.

The canal was chosen as a high-probability segment due to a relict Lafourche-age distributary channel that passes from east to west across the north end of the canal (Smith et al. 1986:Pl. 44). This channel actually emanates from the Teche-Mississippi course now occupied by Bayou Black, so it may predate the Lafourche age assigned by Smith et al.

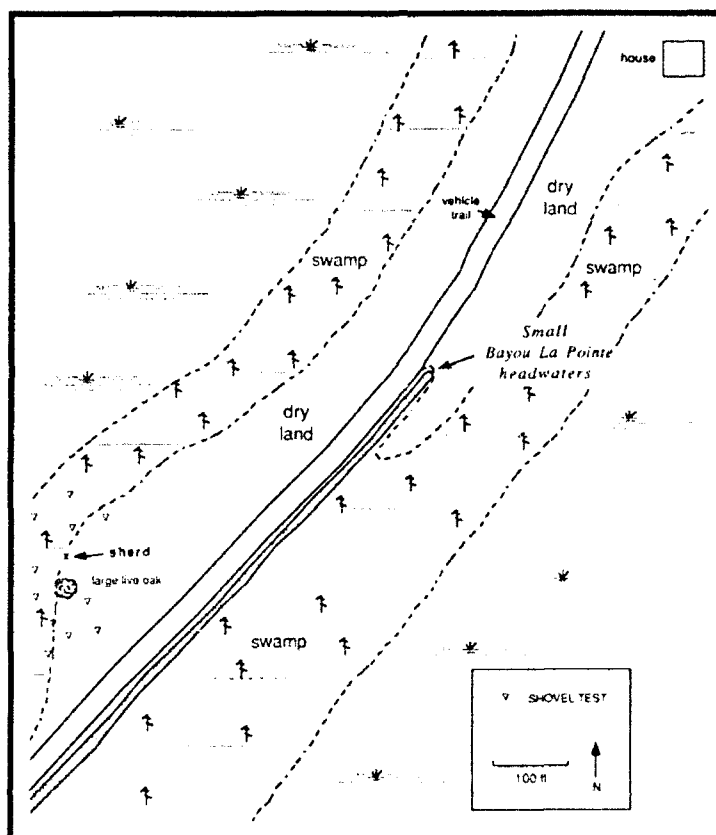


Figure 6-31. Sketch map of the Small Bayou La Pointe Midden (16 TR 204), showing negative shovel tests along with the one that encountered the midden and lone sherd.

The site is represented superficially by several discontinuous deposits of *Rangia* shell which appear as beach wash along the edge of the canal (Figures 6-32 and 6-33). In the southern portion of the site, the shell is present only as a very thin scatter. No artifacts were found.

At first, it was thought that the shell may be nothing more than spill off a construction barge, especially since two apparent mooring pilings are located in the canal adjacent to the shell. However, probing and augering revealed the presence, at the north end of the site, of a 0.4-ft-thick shell lens buried approximately 4.3 ft below the ground surface. Considering also the proximity of the relict channel noted by Smith et al., it finally was decided that the buried shell represents the remains of a subsided shell midden. Unfortunately, however, it appears that the intact shell lens covers only an area measuring about 15 by 5 ft, the rest of it having been destroyed during canal construction.

Comments and Recommendations

This site is represented only by a small, buried shell lens that most likely once was a midden situated along the edge of a small distributary channel. As no cultural material was found, it is impossible to provide any estimates of site age.

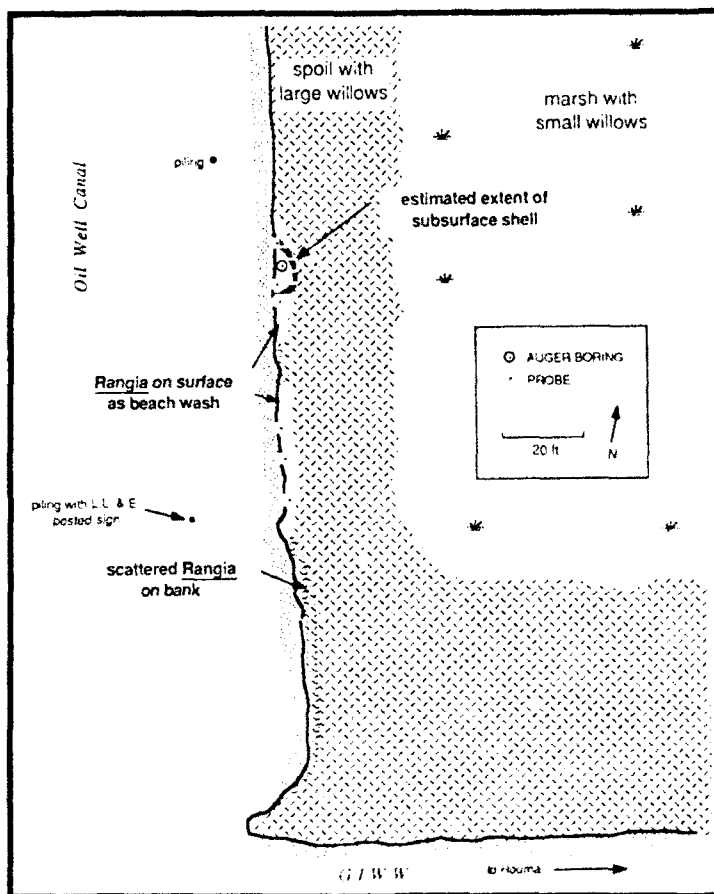


Figure 6-32. Sketch map of the Orange Grove Field site (16 TR 209), showing extent of surface and subsurface *Rangia* deposits and locations of auger boring and probes.

Considering the limited amount of available data, and the relatively small nature of probable in situ remains, it is not likely that the site is eligible for the National Register.

WATERPROOF DISTRIBUTARY (16 TR 213)

Location and Description

This site is located in a sugarcane field on Waterproof Point, a little over 1.4 mi south of U.S. Hwy 90 by way of a service road used by Houma Fluid Services to reach the Sunrise Oil and Gas Field to the south. It is about 0.6 mi north of the GIWW and 0.2 mi west of Minors Canal. It consists of a sparse scatter of aboriginal ceramics covering an area about 70 ft east-west by 50 ft north-south, and is situated on the eastern flank of the old Waterproof Point distributary natural levee ridge (Figure 6-34). Smith et al. (1986:Pl. 44) indicate that this distributary originally emanated from the Teche-Mississippi trunk channel but later was reoccupied by the Lafourche system.



Figure 6-33. Wave-washed *Rangia* shell exposed along bank of oil-field canal at the Orange Grove Field site (16 TR 209). View to the northwest. Date: 3/25/87.

At the time of the present survey, the field in which the site is located had been flooded from heavy rains, making collecting conditions less than ideal (Figure 6-35). Similarly, it was not possible to excavate shovel tests to determine whether or not intact midden is present beneath the plow zone. Regardless of these problems, the ceramics which were collected are useful in interpreting the site's history (Table 6-10).

Three probable components can be recognized: an initial late Coles Creek occupation, identified by the sherds of *Hardy*; an early to mid-Mississippi period occupation, marked by the sherd of Coleman Incised; and a late Mississippi period occupation, noted by the sherd of Mississippi Plain. In addition, several pieces of fired clay were found, and may represent the remains of daub from a structure's walls.

Comments and Recommendations

This site probably was the locus of a small hamlet that was occupied from late Coles Creek to late Mississippi times (ca. A.D. 1000 to 1700). This is interesting in that a nearby site, Waterproof Point Field (16 TR 215), situated only about 0.6 mi to the north up the same natural levee system, and to be discussed below, was occupied during early and middle Coles Creek times, thereby offering two sites with sequential occupations.

Whether the site is eligible for the National Register cannot now be determined. Given the relatively long occupation and the presence of possible daub, it would seem likely that subsurface features, such as postmolds, trash pits, and storage pits, would be present and

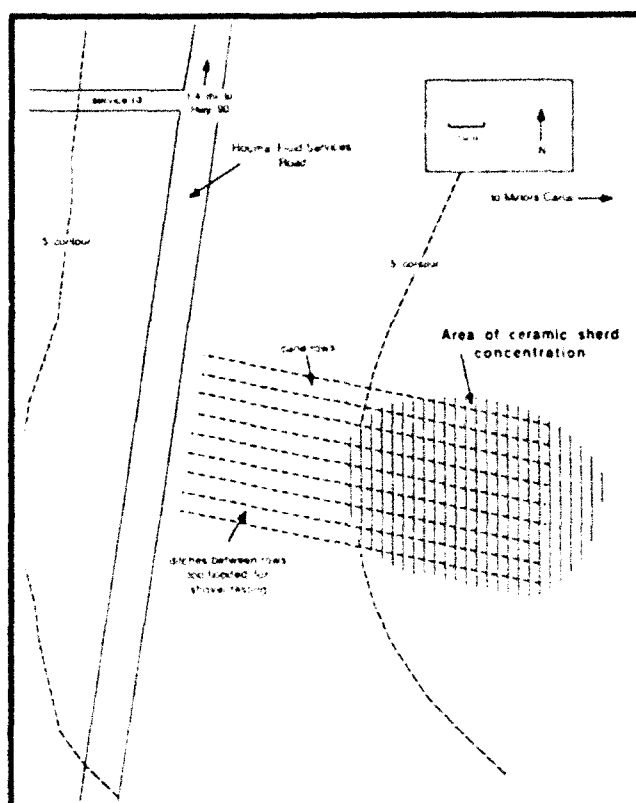


Figure 6-34. Sketch map of the Waterproof Distributary site (16 TR 213), showing approximate extent of surface sherd scatter.

could offer important archeological data. For that reason, then, it may be best to consider the site potentially eligible, pending additional research.

ORANGE GROVE PLANTATION (16 TR 214)

Location and Description

This site consists of the main building complex on Orange Grove Plantation and an associated scatter located to the west (Figures 6-36 and 6-37). The site is situated on the south side of Bayou Black approximately 2 mil east of the small community of Humphries. One of the terrestrial transects examined during the sample survey passed through that portion of the site west of the main house, and that is the area discussed here. A sparse scatter of historic artifacts was found on the surface in a sugarcane field over an area ca. 100 ft north to south by 75 ft east to west (see Figure 6-36).

Table 6-11 presents information on the artifacts recovered from the site. The only ceramics present were two sherds of undecorated whiteware that provide little chronological information beyond a post-1830s date. A base from a dark brown bottle made with a bottom-hinged mold indicates a date between 1810 and 1880, thus the collection as a whole may date to the latter part of the nineteenth century.



Figure 6-35. View of the Waterproof Distributary site (16 TR 213) in rain-soaked sugarcane field on Waterproof Point. Looking to the north. Date: 3/25/87.

Table 6-10. Ceramic Counts and Percentages for the Waterproof Distributary Site (16 TR 213), General Surface Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	3	45	48	92.3	--
Coleman Incised <i>var. unspecified</i>	0	1	1	1.9	33.3
Coles Creek Incised <i>var. Hardy</i>	0	2	2	3.8	66.6
Mississippi Plain <i>var. unspecified</i>	0	1	1	1.9	--
Total	3	49	52	99.9	99.9

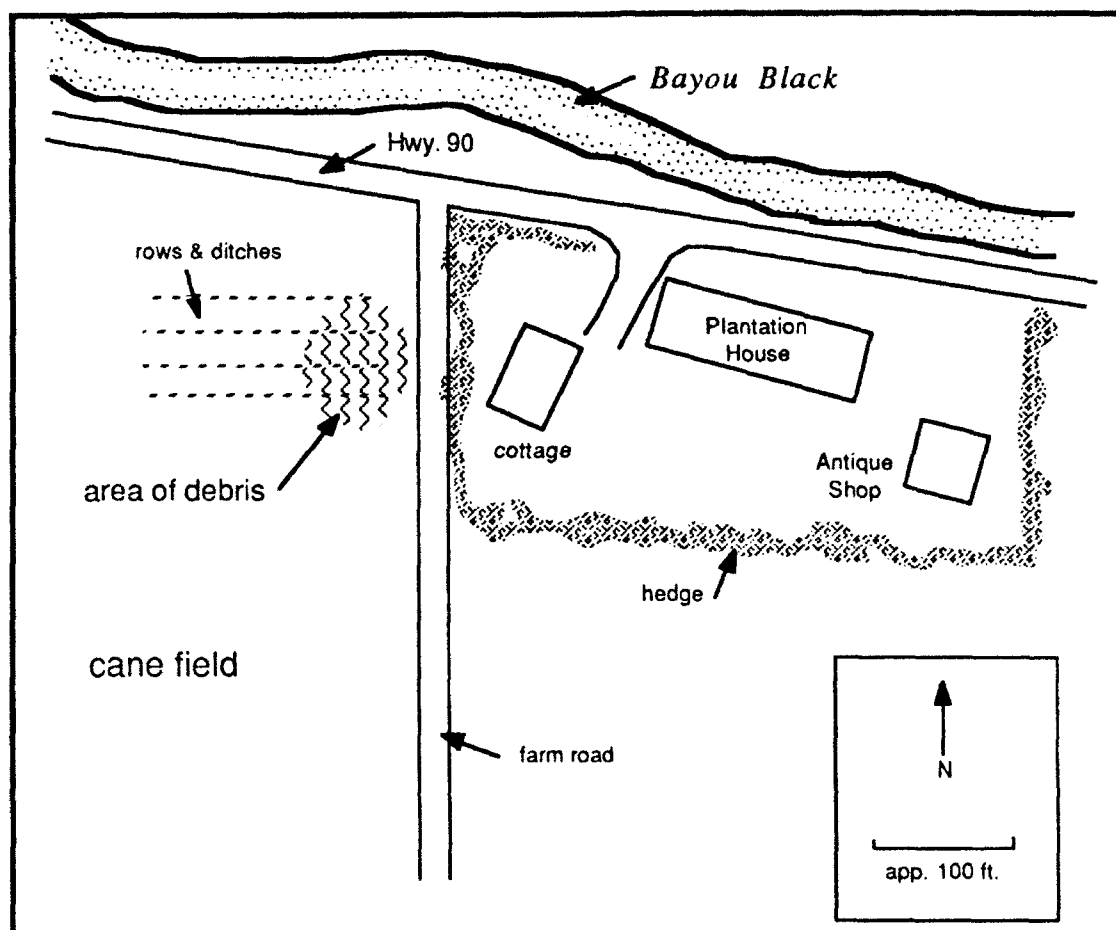


Figure 6-36. Sketch map of a portion of the Orange Grove Plantation site (16 TR 214).

Orange Grove Plantation was established by Willard Warner, a native of Licking County, Ohio, during the 1840s and operated by him until his death in 1848. The Greek Revival main house (Figure 6-38) that is presently standing on the property was apparently built by him between 1846 and 1848. After Warner's death the plantation was purchased by George Haydel. It continued to operate as a sugar plantation throughout the remainder of the century.

Comments and Recommendations

The Orange Grove Plantation site represents the remains of a middle- and late -nineteenth century sugar plantation located on Bayou Black. The present survey recorded a sparse sheet midden located in a sugarcane field west of the main house. Although intact deposits were not recorded in this area, they may well be present behind the house, which is itself listed on the National Register of Historic Places.

ALTSCHUL (16 TR 218)

Location and Previous Description

This is Altschul's (1978:102-109) Area 1 at his combined site 16 TR 19/3, which, for reasons already discussed in regard to site 16 TR 19 (and to be presented in slightly more detail



Figure 6-37. Field with historic artifacts at the Orange Grove Plantation site (16 TR 214). View to the south. Date: 3/26/87.

Table 6-11. Historic Artifacts Recovered from Site 16 TR 214.

ARTIFACT TYPE	CATEGORY	DESCRIPTION	NUMBER
Ceramic	Whiteware	Undecorated	2
Glass	Dark brown	Bottle base made with hinged bottom mold	1
Brick	Fragments		3
Metal	Iron	Portion of a bar with circular hole at one end	1
Total			7

later in the review of site 16 TR 3), we have decided to elevate to full site status. The basic premise behind this reasoning is that Altschul's Area 1, which he took to be the original location of 16 TR 3, cannot, on the basis of the aboriginal ceramics recovered, be the same site. The material from the original 16 TR 3 probably represents a Baytown period occupation, while Altschul's Area 1 (now 16 TR 218) is almost entirely representative of an early Mississippi period, Plaquemine culture locale.

The site itself is located on the west bank of Bayou du Large, within sugarcane fields adjacent to the bayou, around and immediately upstream from St. Michael's Church.

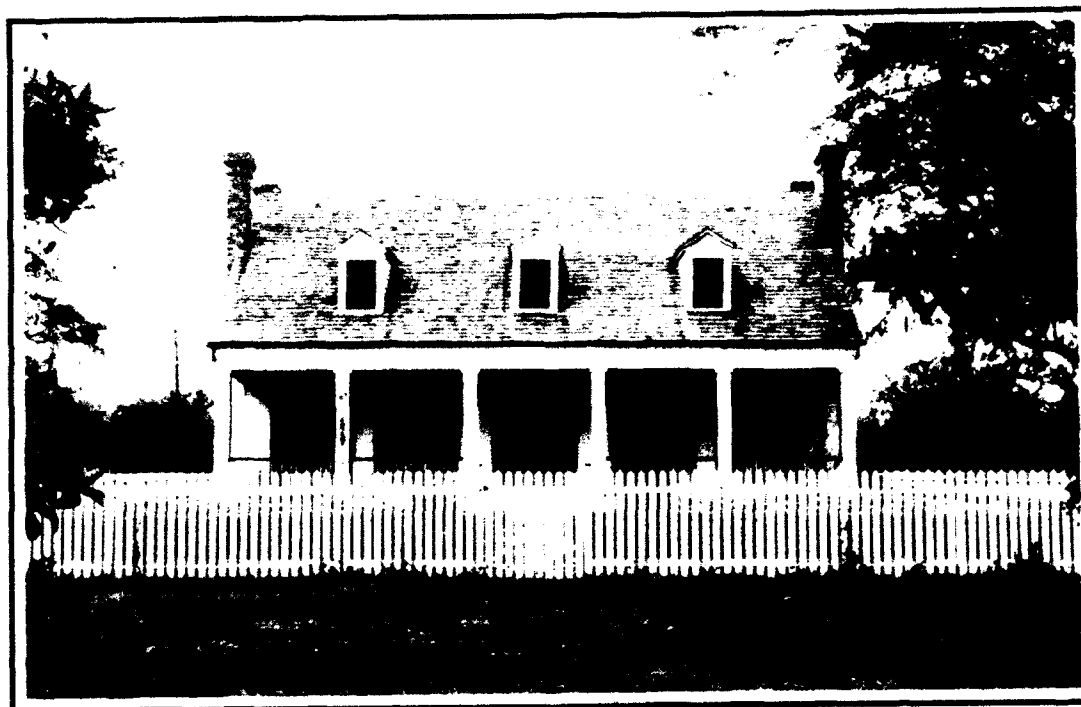


Figure 6-38. Front view of the Orange Grove Big House at the Orange Grove Plantation site (16 TR 214). View to the south. Date: 3/26/87.

According to Altschul (1978:103, Fig. 40), the site extends along the bayou bank for a distance of 750 m (2,460 ft) and westward back from the bayou for about 200 m (656 ft).

Altschul (1978:107) tested the site through a series of shovel holes, all of which indicated that the cultural remains were confined to a plow zone that measured between 30 and 40 cm (12 to 16 in) in depth. He also obtained a fairly large collection of both aboriginal and historic material (Altschul 1978:Table 15). The former consisted of the following ceramics classified according to Altschul's 1978 types and varieties:

<i>Type and Variety</i>	<i>Number</i>
Baytown Plain	
<i>var. unspecified</i>	7
Coles Creek Incised	
<i>var. Hardy</i>	2
Leland Incised	
<i>var. Bayou Goula</i>	1
Maddox Engraved	
<i>var. Baptiste</i>	2
Mazique Incised	
<i>var. Manchac</i>	2
Plaquemine Brushed	
<i>var. Plaquemine</i>	3
Unidentifiable	18
Plain body sherds	271

In addition, several pieces of daub, one bifacial thinning flake, two secondary flakes, and several pieces of blocky debitage were recovered.

Undoubtedly, as discussed above, the major aboriginal occupation can be related to the early Mississippi period, and conforms well with the occupation at 16 TR 19. In fact, as Altschul (1978:109) suggested, 16 TR 218 probably served as the main village area for the mound at 16 TR 19. The only probable mid- to late-Mississippi period diagnostic is the sherd of *Bayou Goula*, which now would be classified as a variety of Fatherland Incised, although its presence in an early Plaquemine component should not be ruled out entirely.

The historic ceramics collected by Altschul consisted of the following:

<i>Type</i>	<i>Number</i>
Bandedware	1
Earthenware	2
Mochaware	1
Pearlware	9
Whiteware	1

Also collected were three pieces of nondiagnostic glass and three wire nails. Unlike the aboriginal material, which appears to have been classified correctly, the relatively large quantity of pearlware raises questions about the accuracy of the historic analysis. In fact, it is clear from Altschul's definition of pearlware (Altschul 1978:172) that he actually is referring in most cases to whiteware. If, in this instance, however, Altschul is correct, it would seem to indicate a major occupation dating between about 1800 and 1825. Thus, an association with either the Houma Indians or an early settler becomes a possibility. This will be examined more closely below.

Present Description

The site today is much as described by Altschul (Figure 6-39). Shell was seen scattered throughout the fields on both the north and south sides of the oil-field access road, and to the west of St. Michael's Church. Since this aspect of the site had previously been examined in some detail by Altschul, however, it was decided to concentrate our efforts on the historic component. This hopefully would also allow for a better assessment of the exact nature of this occupation.

Accordingly, a series of four surface-collection lines was laid out in the area of historic material, and individual collection transects were examined. Most of these latter units were 20 ft in length, although as the quantity of material decreased to the south, several transects were increased in length to 100 ft (see Figure 6-39). The results of the collection acquired from these transects are presented in Table 6-12. It should be noted that only a sample of the brick fragments was collected from Transects 1 through 11 because of the large quantity present. In the other transects, however, all brick fragments seen were collected. This suggests that the house or houses once present at the site were situated at the northern end of the historic artifact scatter, near the access road.

The artifacts themselves are relatively mundane late-nineteenth- or early-twentieth-century items. Aside from a few pieces of porcelain, stoneware, and yellowware, which can date throughout the nineteenth and twentieth centuries, the only ceramic found was whiteware. Thus, a post-1830 date is almost certainly indicated. Similarly, of those bottles for which a manufacturing technique could be determined, all were produced by

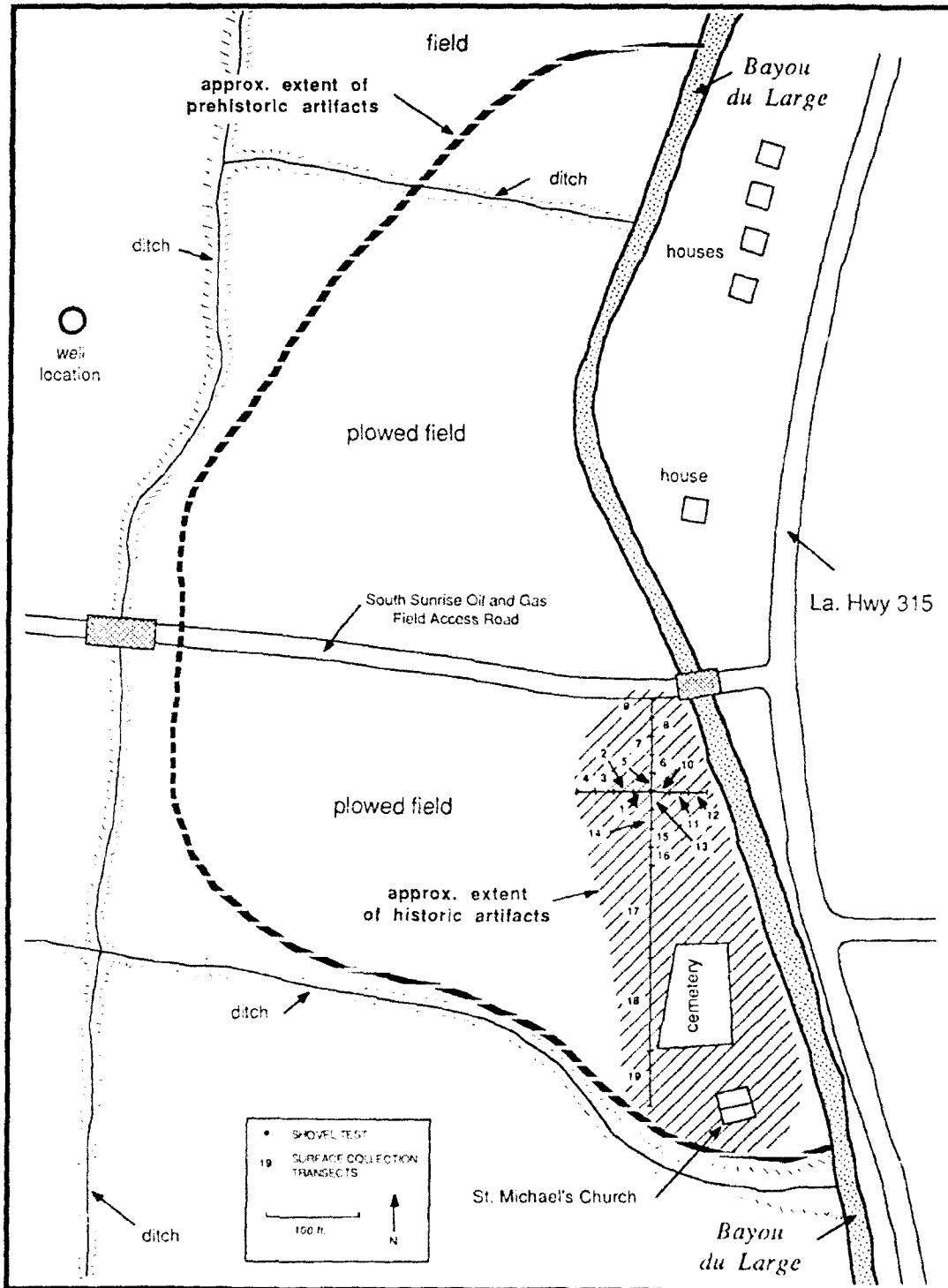


Figure 6-39. Sketch map of the Altschul site (16 TR 218), showing extent of prehistoric and historic artifact scatters and surface-collection transects. St. Michael's Church and cemetery also are shown.

Table 6-12. Historic Artifacts Obtained from the Systematic Surface Collection at the Altschul Site (16 TR 218).

SURFACE COLLECTION TRANSECTS	ARTIFACT TYPE	CATEGORY	DESCRIPTION	NUMBER	TOTAL
1	Ceramic	Whiteware	Undecorated	5	35
		Porcelain	Undecorated	2	
	Glass	Opaque white	Unidentified	1	
		Clear	Unidentified	16	
			a.b.m.-made fragment	2	
		Amber	Unidentified	2	
	Brick		Fragment	3	
	Metal		Unidentified	4	
2	Ceramic	Whiteware	Undecorated	5	22
		Porcelain	Undecorated	1	
	Glass	Yellowware	Undecorated	1	
		Amber	a.b.m.-made	1	
			Unidentified	1	
		Opaque blue	Unidentified	1	
		Clear	Unidentified	10	
			Base embossed: "O Dura..." (Owens Illinois Glass Co., Duraglass, since 1940; Toulouse 1971:403)	1	
	Plastic		Unidentified	1	
3	Ceramic	Whiteware	Undecorated	1	12
		Glass	Clear	5	
	Metal		Embossed: "TRAD.../BOTT..."	1	
		Opaque white	Unidentified	2	
		Amber	a.b.m.-made	2	
			Unidentified	1	
4	Ceramic	Whiteware	Undecorated	1	1
5	Ceramic	Whiteware	Undecorated	6	32
			Undecorated with mark: "...UGHLIN/...IN U.S.A. 7N6" (Homer Laughlin China Company, 1900- 1960; Gates and Ormerod 1982:136).	1	
		Stoneware	Gray	1	
	Glass	Porcelain	Undecorated	3	
		Opaque white	Unidentified	3	
		Clear	Unidentified	13	
			Flat	3	
		Green	Unidentified	1	
	Metal		Unidentified	1	
6	Ceramic	Whiteware	Undecorated	3	25
		Glass	Clear	15	
	Glass		a.b.m.-made neck	2	
		Opaque white	Unidentified	1	
		Green	Unidentified	1	
		Amber	a.b.m.-made	1	
	Metal		Wire nail	1	
			Square nail	1	
7	Ceramic	Whiteware	Undecorated	1	
		Stoneware	Bristol glaze	1	
	Glass	Clear	Unidentified	9	
		Opaque white	Unidentified	1	

(continued)

Table 6-12. continued.

SURFACE COLLECTION TRANSECTS	ARTIFACT TYPE	CATEGORY	DESCRIPTION	NUMBER	TOTAL
7 (cont.)	Glass	Amber	Unidentified	1	17
			Embossed: "N /SURE-KL..." (Obear-Nester Glass Co., post 1915; Toulouse 1971:374)	1	
	Brick		Fragment	2	
	Metal		Wire nail	1	
8	Ceramic	Whiteware	Undecorated	1	11
		Porcelain	Disc	1	
	Glass	Clear	Unidentified	6	
		Opaque white	Unidentified	1	
	Metal	Amber	a.b.m.-made	1	
			Wire nail	1	
9	Ceramic	Whiteware	Undecorated	1	2
	Glass	Clear	Unidentified	1	
10	Ceramic	Whiteware	Undecorated	3	42
			Polychrome overglazed	1	
	Glass	Stoneware	Brown glaze	1	
		Clear	Unidentified	23	
			Flat	4	
			a.b.m.-made neck	1	
		Green	Unidentified	1	
		Amber	Unidentified	1	
		Opaque white	Unidentified	1	
		Opaque green	Unidentified	1	
	Brick		Fragment	2	
	Metal		Horseshoe	1	
			Wire nail	1	
			Unidentified	1	
11	Ceramic	Whiteware	Undecorated	2	13
	Glass	Clear	Unidentified	5	
			Embossed: "REFL.../PRO..."	1	
			a.b.m.-made base, embossed: "Duraglass" (Owens, Illinois Glass Co., post- 1940; Toulouse 1971:403)	1	
	Brick		Fragment	2	
12	Glass	Clear	Unidentified	1	2
		Amber	Unidentified	1	
13	Ceramic	Whiteware	Undecorated	2	4
	Glass	Clear	Unidentified	1	
		Amber	Unidentified	1	
14	Ceramic	Whiteware	Undecorated	3	9
			Unidentified	2	
	Glass	Clear	a.b.m.-made	1	
		Opaque white	Unidentified	1	
	Concrete		Cinder block fragment	1	
		Battery electrode		1	
15	Glass	Clear	Unidentified	1	3
		Amber	Unidentified	1	
	Brick		Fragment	1	
16	Ceramic	Whiteware	Undecorated	1	2
	Glass	Opaque white	Unidentified	1	

(continued)

Table 6-12. concluded.

SURFACE COLLECTION TRANSECTS	ARTIFACT TYPE	CATEGORY	DESCRIPTION	NUMBER	TOTAL
17	Ceramic	Whiteware	Undecorated	1	3
	Glass	Clear	Unidentified	1	
	Brick		Fragment	1	
18	Ceramic	Whiteware Porcelain	Undecorated	3	4
			Undecorated	1	
19	Glass	Clear	Unidentified	1	2
			Flat	1	
Total					241

the automatic, bottle-making machine (i.e., post-1903). Also, identifiable maker's marks included a ca. 1900-1960 ceramic mark and three post-1915 glass marks.

Clearly, this is a late assemblage, and suggests that Altschul's pearlware identification is incorrect. Interestingly, though, in regard to decorated ceramics, where Altschul found one sherd each of "banded ware" and "mochaware," the present survey found only one sherd of a polychrome, overglazed whiteware. Since Altschul's entire collection consisted of only 14 sherds and the CEI collection includes 53 sherds, it seems strange that the latter produced such little decorated ware. Perhaps Altschul collected the only two sherds of bandedware and mochaware at the site, but this seems unlikely. Only additional collections will help clarify the situation.

Regardless, it is clear that Altschul's pearlware is really whiteware and that the early date suggested by such a large percentage of pearlware may be dismissed. In that regard, a review of early quadrangle maps was conducted in an attempt to identify houses once present at the site. Unfortunately, the earliest map found dated only to 1944 (USGS 1944) and showed only the church. An interview with Antoinette T. Marmande, a nearby resident, however, indicated that numerous tenant houses once existed in the area, and almost all were abandoned in the 1930s with the closing of the Sunrise Plantation sugarmill. The latter was located just south of the community of Mulberry (Antoinette T. Marmande, personal communication 1986). St. Michael's church apparently served as the home for the local black congregation associated with Sunrise Plantation. Today, the church no longer is used, its bell and belfrey having been removed, although burials still reportedly occur in its cemetery (Figure 6-40).

Lastly, the CEI survey crew dug a single shovel hole at the center of the surface collection transect rays. It uncovered historic material to a depth of only 8 in (20 cm), slightly less than the depth of the plow zone recorded by Altschul, and confirmed that no midden was present.

Comments and Recommendations

Although the historic component is relatively late and rather nondescript, the overall site is most likely eligible for inclusion in the National Register. It almost certainly represents a moderate-size village of the early Mississippi period (ca. A.D. 1200-1400), and undoubtedly was inhabited by people associated with the adjacent mound center at 16 TR 19.

The fact that daub was found by Altschul indicates that the remains of aboriginal houses should be present beneath the plow zone. Similarly, additional features, such as post holes,

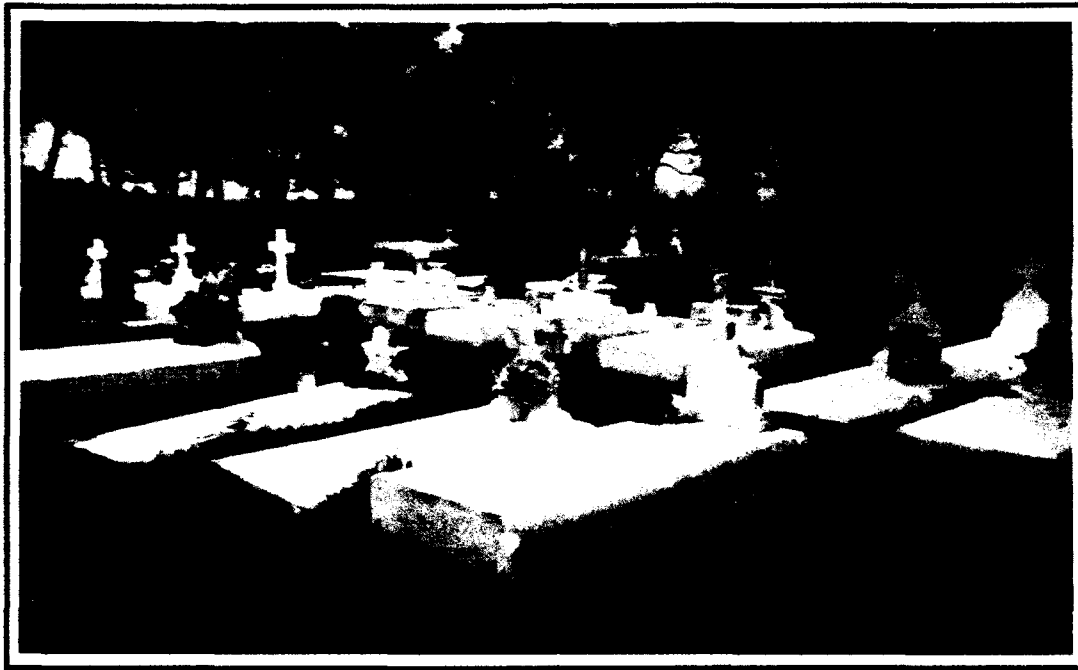


Figure 6-40. Cemetery associated with St. Michael's Church at the Altschul site (16 TR 218). View to the southwest. Date: 11/19/86.

trash pits, and possibly burials, no doubt exist below the plow zone and can provide exceedingly important information on the occupation at the site. The historic occupation also most likely produced subsurface features, such as privies and trash pits, which would have survived any subsequent plowing.

Therefore, it is suggested that the site be tested further in an effort to locate such buried features, both prehistoric and historic, and to allow for a full determination of significance.

CARENCRO-LITTLE CARENCRO (16 TR 219)

Location and Description

This site is situated in the marsh north of Little Carencro Bayou, about 0.4 mi northeast of the junction of Carencro Bayou and Little Carencro Bayou. It consists of a raised *Rangia* shell ridge, approximately 140 ft long by 80 ft wide at its widest point, with a low saddle in its center that is at marsh level and was submerged at the time of CEI's visit. This saddle gives the impression of two adjacent rises, although shell is continuous across the entire length of the site. The site is covered with a healthy stand of live oaks and palmettos. It forms part of the possible beach-ridge feature, noted previously, which extends southwesterly in a discontinuous line from Lake Penchant.

A careful search of the ridge failed to locate any artifacts, although many burned *Rangia* were present, suggesting a probable cultural origin for at least the upper portion of the feature. One auger boring was placed down at the center of the ridge, but only penetrated through 5 ft of shell before it was terminated.

Comments and Recommendations

There is little more to add concerning this site. As with the other beach-ridge features of the region, it should be tested more thoroughly to determine both its origin and National Register significance.

Assessments of Known Site Locations

Fourteen sites or reported locations within the Terrebonne marsh study area were chosen for revisit and assessment. As noted earlier, the original number of sites was to have been 12; however, several locales could not be relocated, and several others were selected as replacements. Whether found or not, a review of each site is provided below, while locations or reported locations are shown on Plate 3.

Several factors were important in choosing which sites would be revisited and assessed. First, an attempt was made to select sites distributed throughout the entire study area. While this was hampered somewhat by a lack of sites of any kind within the west-central portion of the study area, sites that were revisited extended from several on the old Teche-Mississippi natural levees in the north to one on the Bayou du Large levee in the south, and from Deer Island in the west to sites on and near Lake De Cade in the east.

Second, sites were chosen that offered the best potential for examining a variety of landforms, or which had questionable landform associations. Thus, several possible beach-ridge locales, several sites on both major and minor natural levees, a lakeshore site, and at least one with a questionable association, were selected.

Third, sites that provided a variety of cultural components, based on past research, or about which virtually nothing was known, also were selected. In the first category were locales such as Turtle Bayou (16 TR 50) and Lake Penchant (16 TR 4), which had a potential occupation range from late Marksville through Coles Creek and possibly Mississippi times, while the second group consisted of sites like Deer Island (16 TR 88/103), Billiot Canal (16 TR 44), and Marmande Ridge (16 TR 49).

As with the previous survey segment of the Terrebonne marsh portion of the project, revisits to these sites took place during two different intervals. The first occurred between 17 and 19 December 1986, while the second took place between 26 March 1987 and 3 April 1987.

Most sites were reached by either truck and then foot, for those along the Teche-Mississippi levees, or by a small boat, for those easily accessible along waterways. For one (16 TR 49), however, it was necessary to employ an airboat to cross closed canals, shallow expanses of water, or open marsh along the way to the site.

Descriptions of the 14 sites revisited and assessed are presented below.

LAKE PENCHANT (16 TR 4)

Location and Previous Description

The Lake Penchant site originally was recorded by Randolph Bazet in August 1952 (LDA site form). Previously, Bazet had visited the locale on and off for a period of 16 years beginning in 1936. It was described as a crescent-shaped shell midden about 1300 ft in length. The 1935 Lake Penchant, 7.5-min quadrangle map shows the site in a similar configuration situated in the marsh northwest of Lake Penchant (Figure 6-41). As noted in the previous discussion on the Bayou Penchant I site (16 TR 47), the Lake Penchant site is one of a series

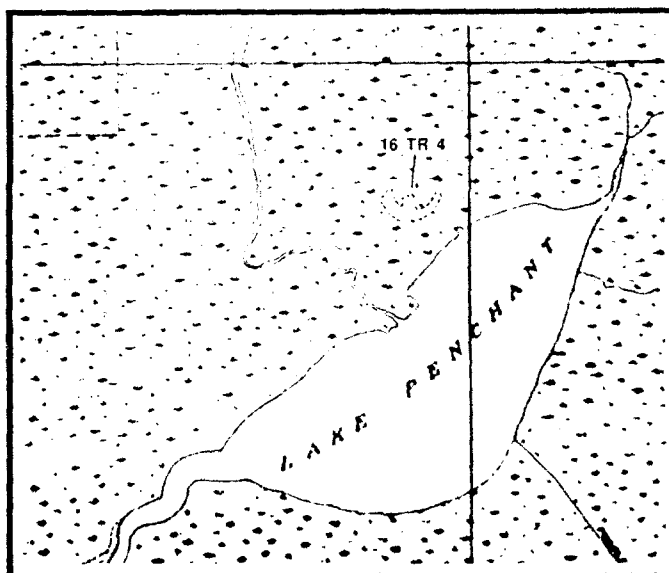


Figure 6-41. The Lake Penchant site (16 TR 4) illustrated on the 1935 Lake Penchant, LA, 7.5-min quadrangle map, prior to its almost total destruction by commercial shell dredging.

of locales believed to be situated along a relict beach ridge. The dating of this ridge is conjectural at this point. In fact, it still is uncertain whether the sites actually occur on a beach ridge or a subsided natural levee, as originally questioned by McIntire (1958:73).

In any event, following Bazet's initial visit to the Lake Penchant site, a canal was dredged from Bayou Penchant to the locale to allow access for commercial shell-dredging equipment. Apparently, the site was systematically removed for shell over a period of several years, probably during the late 1930s and throughout the 1940s. As McIntire (1958:73) later reported:

Two of the mounds cited above [16 TR 4 and 49], reportedly about sixteen feet in elevation, have been destroyed by dredging crews. One mound [16 TR 66] still remains because it was the cemetery of early European settlers and is protected by its present owners. During the dredging operation Randolph Bazet of Houma, gathered, catalogued, and stored the pottery until such time as it could be studied. Except for the efforts of Mr. Bazet the record would be quite incomplete in this area.

McIntire, in fact, acquired Bazet's extensive collection from the Lake Penchant site, and used it to assign several components to the locale, including Troyville, Coles Creek, and Plaquemine (McIntire 1958:Pls. 5, 7, 8, 10, 12). The site similarly is discussed as the locus of a Troyville initial occupation (McIntire 1958:73). Because of this assessment, it is worth reviewing McIntire's (1958:Pl.13) original ceramic analysis:

<i>Type</i>	<i>Percentage</i>
Fatherland Incised	1.3
Moundville Type	1.3
Evangeline Interior Incised	1.3
Maddox Incised	2.7
Dupre Incised	2.7
Manchac Incised	8.2
Plaquemine Brushed	2.7
Coles Creek Incised	9.6
Coles Creek Incised Rim	12.6
Pontchartrain Check Stamped	35.6
French Fork Incised	4.1
Mazique Incised	12.6
Unclassified	5.4

Undoubtedly, it is the combination of French Fork Incised and Mazique Incised on which McIntire based his Troyville component. This appears to have been somewhat tentative, however, since both of these types could occur in Coles Creek times. In fact, in the next study to mention Lake Penchant, Phillips (1970:911) chose not to include the locale in his Baytown period discussion of the region. Phillips (1970:Figs. 445 and 447) does identify the site on his Coles Creek and Mississippi period maps, however. In the former it is assigned to the Bayou Cutler phase, while in the latter it is listed as Delta Natchezan.

Following Phillips, Neuman (1977:21) is the next to report on the Lake Penchant site. He repeats the site-form data, but then adds the interesting note that the occupation spanned the Marksville through Mississippi periods. It is not known whether Neuman reanalyzed the original Bazet collections, but, as will be seen, there is good reason to suspect a late Marksville occupation at the site.

Weinstein and Gagliano (1985:141, Figs. 7, 8, 9, 10) discuss the site and list it on their Marksville, Baytown, Coles Creek, and Mississippi period paleogeographical maps of the region. Without having reviewed the original collections, however, they simply followed the components reported by the earlier investigators.

Recently, Neuman (1992) reported on the presence of a spatulate stone celt from this site in the Bazet collection. This artifact is undoubtedly associated with one of the Mississippi period occupations at the site.

Present Description

As noted above, the Lake Penchant site was badly damaged by shell-mining operations, and today is represented only by a ring of spoil deposits circling the edge of a large pond, locally known as the "Lake Penchant Shell Pit," now present where the site once existed (Figure 6-42). The greatest concentration of spoil is situated along the northern bank of the pond, and it is this area which was examined in detail during the present revisit.

Figure 6-43 is a compass and tape map of the northern bankline around the pond, showing spoil piles (including one impressive hill about 10 ft high), auger boring locations, and the location of selected artifacts found during the examination. Although somewhat difficult to interpret due to vegetation cover and the extent of elapsed time since the shell-mining operation ceased, it appears that there were two separate episodes of dredging. The first is marked by low spoil piles farthest from the pond, containing clumps of redeposited

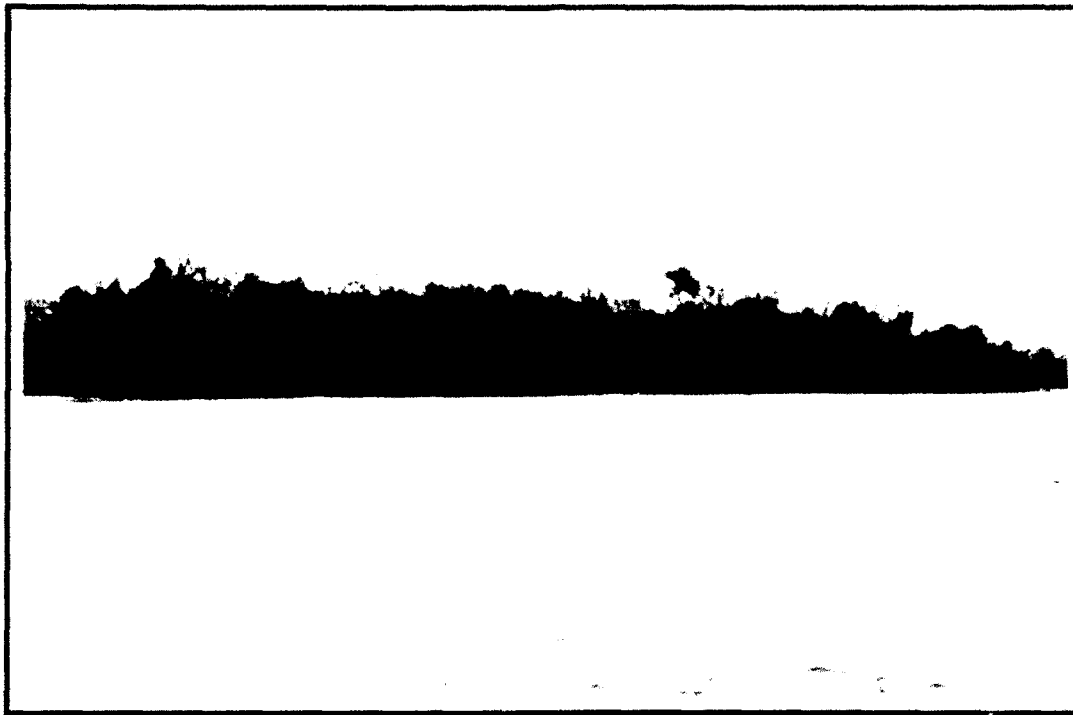


Figure 6-42. View of tree-covered spoil deposits along the north edge of the "Lake Penchant Shell Pit" at the dredged Lake Penchant site (16 TR 4). Looking to the northeast. Date: 12/18/86.

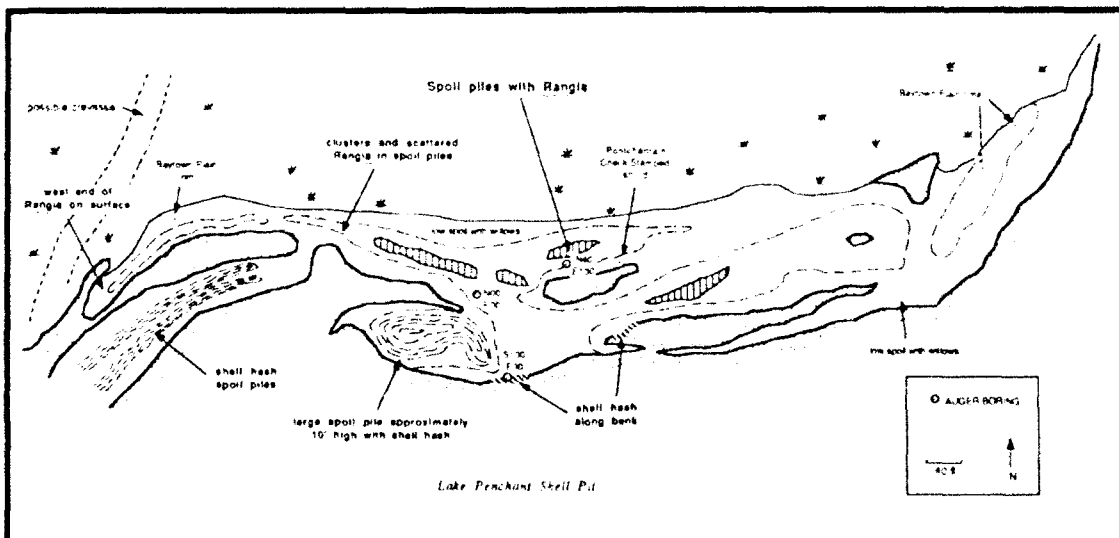


Figure 6-43. Compass and tape sketch map of the Lake Penchant site (16 TR 4) along the north shore of the "Lake Penchant Shell Pit." Auger boring locations and finds of selected artifacts are shown. (Dashed lines represent contour estimates only, used to give a general impression of elevation.)

Table 6-13. Auger Boring Data from the Lake Penchant Site (16 TR 4).

AUGER BORING	DEPTH BELOW SURFACE	SOIL TYPE	COLOR	COMMENTS
N40E100	0.0 - 0.3 ft	Silty clay with <i>Rangia</i>	10YR 3/1	Spoil mixed with midden
	0.3 - 2.3 ft	Clay with oxidation seams	5Y 3/1	Spoil deposit
	2.3 - 2.9 ft	Peaty clay	2.5Y 2/0	Marsh deposit
	2.9 - 3.8 ft	Peat	10YR 2/1	Marsh deposit
	3.8 - 4.5 ft	Peat with <i>Rangia</i>	10YR 2/1	Marsh deposit
	4.5 - 6.0 ft	Peat	10YR 2/1	Marsh deposit
N00E00	0.0 - 0.6 ft	Silty clay with shell hash	10YR 2/1	Spoil deposit
	0.6 - 2.1 ft	Clay with oxidation seams	10YR 4/1	Spoil deposit
	2.1 - 5.1 ft	Clay with some peat	2.5Y 4/0	Natural levee (?)
	5.1 - 5.8 ft	Peat	10YR 2/1	Marsh deposit
	5.8 - 6.0 ft	Clay	2.5Y 3/0	Natural levee (?)
S100E30	0.0 - 1.0 ft	Silty clay with shell hash	10YR 2/1	Spoil deposit
	1.0 - 1.3 ft	Clay with some <i>Rangia</i>	2.5Y 2/0	Spoil deposit
	1.3 - 2.1 ft	Silty clay with oxidation seams	2.5Y 3/2	Spoil deposit
	2.1 - 2.6 ft	Silty clay with oxidation seams and <i>Rangia</i> flecks	5Y 2.5/2	Spoil deposit
	2.6 - 3.1 ft	Clay	5Y 2.5/1	Spoil deposit
	3.1 - 11.0 ft	Clay with <i>Rangia</i> shell hash	5Y 2.5/2	Shell beach deposit (?)

Table 6-14. Point-Count Analysis of *Rangia* Shell Hash from Spoil Deposits at the Lake Penchant Site (16 TR 4). (Counts are to a Total of 100 Items.)

-1 phi Fraction

- 58 *Rangia* shells
- 3 Burned *Rangia* shells
- 2 Bone
- 1 Burned bone

(This fraction also included 1 sherd, 1 *Mulinia* shell, and a few barnacles in the uncounted portion.)

0 phi Fraction

- 66 *Rangia* shells
- 32 Burned *Rangia* shells
- 2 Bone

(This fraction also included very, very few fragments of mussel and oyster shell and barnacles.)

midden, of which the most notable constituent is whole *Rangia* shells. Closer to the pond edge are the higher spoil piles which appear to be composed almost entirely of *Rangia* shell hash. This hash may be the matrix of the underlying beach ridge. The same spoil-pile sequence also occurs along the south bank of the pond, but in a much narrower and lower series of ridges. Thus, it appears the earlier dredging removed most of the cultural layers, while the later, deeper dredging took out the possible beach material.

Despite the obvious degraded nature of the site, it was decided to place down a few auger borings in an effort to determine whether intact midden was preserved beneath the various spoil piles. The borings were placed at grid coordinates N00E00, N40E100, and S100E30 (see Figure 6-43). All showed badly jumbled deposits of midden, marsh clays, shell hash, and peat (Table 6-13). Only the boring at S100E30 penetrated apparently in situ shell, probably hash, that extended from approximately -3 ft to -11 ft at which point the boring was terminated. This suggests that the very fringes of the northern bankline may still retain intact cultural deposits, although at the S100E30 boring only spoil was found overlying the intact shell matrix.

To determine the exact nature of the shell hash deposit, a sample was collected from the large, 10-ft-high spoil pile shown on Figure 6-43. This material, although obviously disturbed, was subjected to both radiocarbon dating and point-count analysis to see, first, if it was from a presumed deeper and earlier deposit, and, second, if it contained evidence of cultural remains. The shell hash for radiocarbon dating was submitted to the Center for Applied Isotope Studies at the University of Georgia, was subjected to a $\delta^{13}C$ correction for isotopic fractionation, and yielded an age of 1920 ± 50 years B.P.: A.D. 30 (UGa-5692). The point-count analysis was conducted in the CEI laboratory following procedures outlined in Gagliano et al. (1982:98-99). That study showed that enumeration of the -1 phi and 0 phi fractions were sufficient to determine if the deposit was of cultural origin (Table 6-14). Thus, these were the fractions examined for the Lake Penchant site material.

It is suggested by both the radiocarbon date and the point-count analysis that the shell hash deposit is at least 2000 years old and that it contains evidence of culturally derived material. Prominent in the latter category are the burned *Rangia*, bone, and burned bone. The fact that one aboriginal sherd also came from the 0 phi fraction provides additional support that this sample of shell hash is almost certainly part of a shell midden. Whether it represents a midden that became reworked by wave action into a beach deposit, or a badly degraded shell midden, is not known. The former seems the more likely case, however. Whatever the true situation, all of this suggests that the initial occupation of the site could be fairly early, perhaps going back to Tchula times or before.

To compliment the anticipated radiocarbon date, along with the map and auger boring data, an effort was made to obtain artifacts to help better define the cultural chronology at the site. Unfortunately, very little material could be found, usually only in the roots of upturned trees or in the backdirt of animal burrows. What little material that could be found was recorded by specific areas tied to the overall grid, but there does not appear to be any significant difference across the site, so this material has been combined for presentation. All told, the collection included 19 sherds of Baytown Plain, *var. unspecified* (two of which were rims), one sherd of Pontchartrain Check Stamped, *var. Pontchartrain* (see Figure 6-44, R, below), and one rim sherd of Pontchartrain Check Stamped, *var. Tiger Island* (see Figure 6-45, M, below). In addition, another sherd of Baytown Plain was found across the pond on the southern spoil piles.

Clearly, this collection does little to enhance that previously presented by McIntire and briefly reviewed above. Therefore, the original Bazet material, now housed at the LSU Museum of Geoscience, was reanalyzed for the present study. Actually, there are three

**Table 6-15. Ceramic Counts and Percentages for the Lake Penchant Site (16 TR 4),
LSU Collection.**

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Anna Incised var. <i>unspecified</i>	1	0	1	0.3	1.0
Avoyelles Punctated var. <i>Tatum</i>	1	0	1	0.3	1.0
Baytown Plain var. <i>Little River</i>	7	1	8	2.3	--
var. <i>Troyville</i>	2	0	2	0.6	--
var. <i>unspecified</i>	63	159	222	65.1	--
Bell Plain var. <i>unspecified</i>	1	0	1	0.3	--
Chevalier Stamped var. <i>Lulu</i>	1	1	2	0.6	2.0
Churupa Punctated var. <i>Thornion (?)</i>	0	1	1	0.3	1.0
var. <i>unspecified</i>	0	1	1	0.3	1.0
Coleman Incised var. <i>unspecified</i>	0	1	1	0.3	1.0
Coles Creek Incised var. <i>Athanasio</i>	2	0	2	0.6	2.0
var. <i>Blakely</i>	1	0	1	0.3	1.0
var. <i>Hardy</i>	5	2	7	2.1	6.9
var. <i>Dozier</i>	4	0	4	1.2	3.9
var. <i>Stoner</i>	1	0	1	0.3	1.0
var. <i>unspecified</i>	1	0	1	0.3	1.0
Evansville Punctated var. <i>Braxton</i>	0	2	2	0.6	2.0
var. <i>Rhinehart</i>	1	0	1	0.3	1.0
French Fork Incised var. <i>Lafayette</i>	2	0	2	0.6	2.0
var. <i>Larkin</i>	0	1	1	0.3	1.0
var. <i>Pousson</i>	0	1	1	0.3	1.0
var. <i>Wilzone</i>	1	2	3	0.9	2.9
var. <i>unspecified</i>	1	0	1	0.3	1.0
Larto Red var. <i>Larto</i>	2	0	2	0.6	2.0
var. <i>Silver Creek</i>	1	0	1	0.3	1.0
Maddox Engraved var. <i>unspecified</i>	1	1	2	0.6	2.0
Marksville Incised var. <i>Spanish Fort</i>	0	1	1	0.3	1.0
Mazique Incised var. <i>Back Ridge</i>	2	0	2	0.6	2.0

(continued)

Table 6-15. concluded.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Mazique Incised (cont.)					
var. <i>Bruly</i>	1	0	1	0.3	1.0
var. <i>Manchac</i>	8	3	11	3.2	10.8
var. <i>Mazique</i>	2	3	5	1.5	4.9
var. <i>unspecified</i>	1	0	1	0.3	1.0
Mississippi Plain					
var. <i>unspecified</i>	2	4	6	1.8	--
Mound Place Incised					
var. <i>unspecified</i>	1	0	1	0.3	1.0
Owens Punctated					
var. <i>McIlhenny</i>	0	1	1	0.3	1.0
Plaquemine Brushed					
var. <i>Plaquemine</i>	1	1	2	0.6	2.0
Pontchartrain Check Stamped					
var. <i>Lambert Ridge</i>	1	0	1	0.3	1.0
var. <i>Pontchartrain</i>	2	22	24	7.0	23.5
var. <i>Tiger Island</i>	0	7	7	2.1	6.9
Woodville Zoned Red					
var. <i>Woodville</i>	0	1	1	0.3	1.0
Unclassified incised					
on Baytown paste	2	0	2	0.6	2.0
on Mississippi paste	0	1	1	0.3	1.0
Unclassified punctated					
on Baytown paste	0	1	1	0.3	1.0
Unclassified decorated					
on Baytown paste	1	0	1	0.3	1.0
Total	123	218	341	100.4	100.7

separate collections involved: one obtained by Bazet, Quimby, and Beecher in December 1940 (Catalogue No. 13,808), one picked up in 1939 by Bazet (Catalogue No. 52-186), and one mixed bag containing items from the 1939 collection along with those with Catalogue No. 17,348. No date is provided on the latter group; however, it must have been acquired following the 1940 collection as the catalogue number is higher. Another collection with catalogue No. 53-457, obtained by Bazet in 1936, is listed on the LDA site form, but could not be located at LSU. This is perhaps unfortunate, as it may represent the only collection made prior to destruction of the site. Conversely, the other collections undoubtedly were picked up during the shell-mining operation, as noted previously by McIntire. Thus, they should provide the full range of cultural periods present, assuming, of course, that the entire midden was removed and material from the earliest occupation was unearthed.

At first, the idea of presenting the collections separately was entertained, in hopes that later collections would be representative of deeper midden. However, upon close examination, this does not seem to be the case. In fact, the combination of collections 17,348, and 52-186 into one bag further serves to negate such a possibility. Therefore, Table 6-15 presents the

reanalysis of the rather extensive quantity of prehistoric ceramics from Lake Penchant. Figures 6-44, 6-45, and 6-46 illustrate selected sherds from the collection along with the two decorated sherds picked up by CEI. In addition to ceramics, the LSU collection included two large sandstone abraders, and, uniquely, a partial boatstone believed to be of lamphorite.

There is a wealth of information to be gained by a thorough reanalysis of the LSU material, particularly in regard to vessel shape and rim modes, but such detailed analysis is beyond the scope of the present study. Nevertheless, several interesting sherds should be discussed. For instance, the unspecified varieties of Maddox Engraved, Coleman Incised, and Anna Incised (see Figure 6-46, O, P, and N, respectively) are listed as unspecified only because their paste is equivalent to Baytown Plain, not Addis Plain. If their paste was Addis, then the sherds could easily be classed as *Emerald*, *Coleman*, and *Anna*, respectively. The *unspecified* sherd of Mound Place Incised (see Figure 6-46, T) is on a fine Bell Plain-like paste. If located farther east along the Gulf coast, it could be classified as *Walton's Camp* (Fuller and Stowe 1982:66-68).

Several of the *unspecified* sherds of Baytown Plain (see Figure 6-46, M) are from shallow bowls or carinated bowls that, in shape, appear more akin to Addis wares; however, the paste is undoubtedly Baytown. Another *unspecified* Baytown Plain rim actually is a French Fork lug on a Lone Oak rim (Wiseman et al. 1979:7-7 to 7-8).

Overall, the LSU collection reveals a site that had its initial occupation very late in the Marksville period, perhaps straddling the line into early Baytown. Key elements in this component are the sherds of Churupa Punctated (see Figure 6-44, B-C), possibly Evansville Punctated, *var. Braxton* (see Figure 6-44, D), and Marksville Incised, *var. Spanish Fort* (see Figure 6-44, A). Perhaps the *Wilzone* sherds (see Figure 6-44, E-F) could be included, as well, although they more than likely are part of the next recognizable assemblage. Obviously, this is in contrast to the possible early Marksville or Tchula period radiocarbon date obtained on the shell hash sample. Perhaps the date is erroneous or perhaps the hypothesized earlier components did not produce sufficient artifacts to have made it into one of the collections. This seems unlikely, however, and the full story of the site will simply have to await additional research.

The next assemblage is representative of a very strong Baytown period occupation, beginning early within the period and lasting throughout its entire length, and undoubtedly is the component McIntire identified as Troyville. Markers for the component include the *Larto* (see Figure 6-44, G-H) and *Silver Creek* varieties of Larto Red; Woodville Zoned Red, *var. Woodville* (see Figure 6-44, I); Coles Creek Incised, *var. Stoner*, and Baytown Plain, *var. Troyville* (see Figure 6-44, J-K) (many of the *unspecified* sherds of Baytown Plain may actually be *Troyville*, as well). Also believed to be a part of the Baytown assemblage are several of the Mazique Incised, French Fork Incised, and Coles Creek Incised varieties which have an "early" look to them, but for which stratigraphic data from elsewhere in the coastal zone are lacking. These include the *Dozier* variety of Coles Creek Incised (see Figure 6-44, L-M), the *Lafayette* and *Pousson* varieties of French Fork Incised (see Figure 6-44, N and O), and the *Bruly* variety of Mazique Incised (see Figure 6-44, P-Q). In addition, as has been argued elsewhere (Wiseman et al. 1979:7-26), much of the *Pontchartrain* variety of Pontchartrain Check Stamped (see Figure 6-44, R-V) could be Baytown in age.

One possible clue to providing a temporal division of the Baytown component can be found in the painted wares. Belmont and Williams (1981) established two major painted-pottery horizons in the Lower Valley, Quafalorma and Woodville. The former is marked by Quafalorma Red and White, Landon Red on Buff, and Larto Red, *var. Larto*

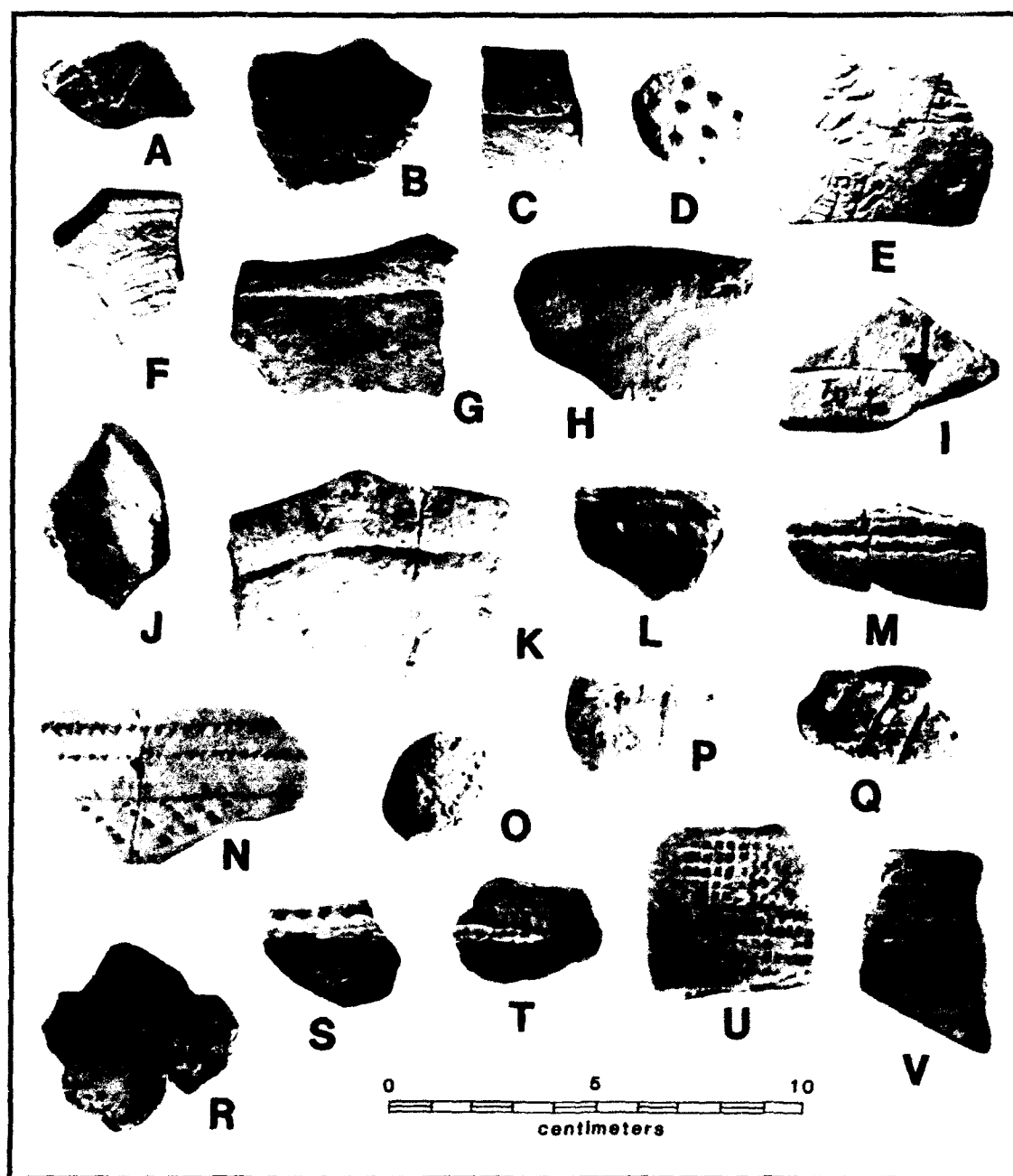


Figure 6-44. Late Marksville, Baytown, and Coles Creek period ceramics from Lake Penchant (16 TR 4). A) Marksville Incised, *var. Spanish Fort*; B-C) Churupa Punctated, *var. unspecified*; D) Evansville Punctated, *var. Braxton*; E-F) French Fork Incised, *var. Wilzone*; G-H) Larto Red, *var. Larto*; I) Woodville Zoned Red, *var. Woodville*; J-K) Baytown Plain, *var. Troyville* (J is a triangular lug); L-M) Coles Creek Incised, *var. Dozier*; N) French Fork Incised, *var. Lafayette*; O) French Fork Incised, *var. Pousson*; P-Q) Mazique Incised, *var. Bruly*; R-V) Pontchartrain Check Stamped, *var. Pontchartrain*. (R, CEI collection; all others, LSU collection.)

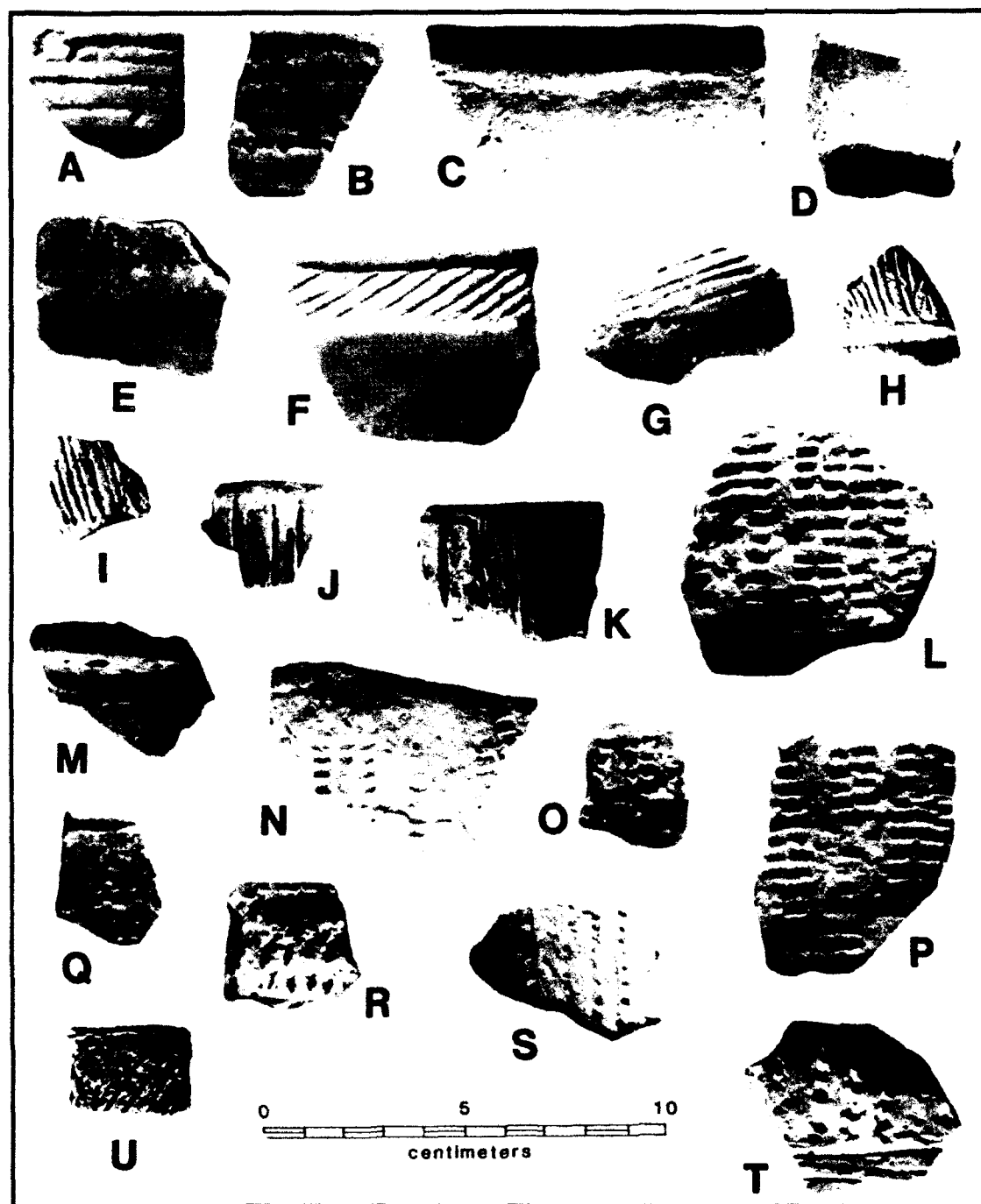


Figure 6-45. Additional Coles Creek period ceramics from Lake Penchant (16 TR 4). A-B) Coles Creek Incised, var. *Athanasio*; C) Coles Creek Incised, var. *unspecified*; D) French Fork Incised, var. *unspecified*; (triangular bowl); E) French Fork Incised, var. *Larkin* (with Machias rim mode); F-G) Mazique Incised, var. *Mazique* (F with Lone Oak rim mode); H-I) Mazique Incised, var. *unspecified*; J-K) Mazique Incised, var. *Back Ridge*; L-P) Pontchartrain Check Stamped, var. *Tiger Island*; Q) Pontchartrain Check Stamped, var. *Lambert Ridge*; R) Evansville Punctated, var. *Rhinehart*; S-T) Chevalier Stamped, var. *Lulu*; U) Avoyelles Punctated, var. *Tatum*. (M, CEI collection; all others, LSU collection.)

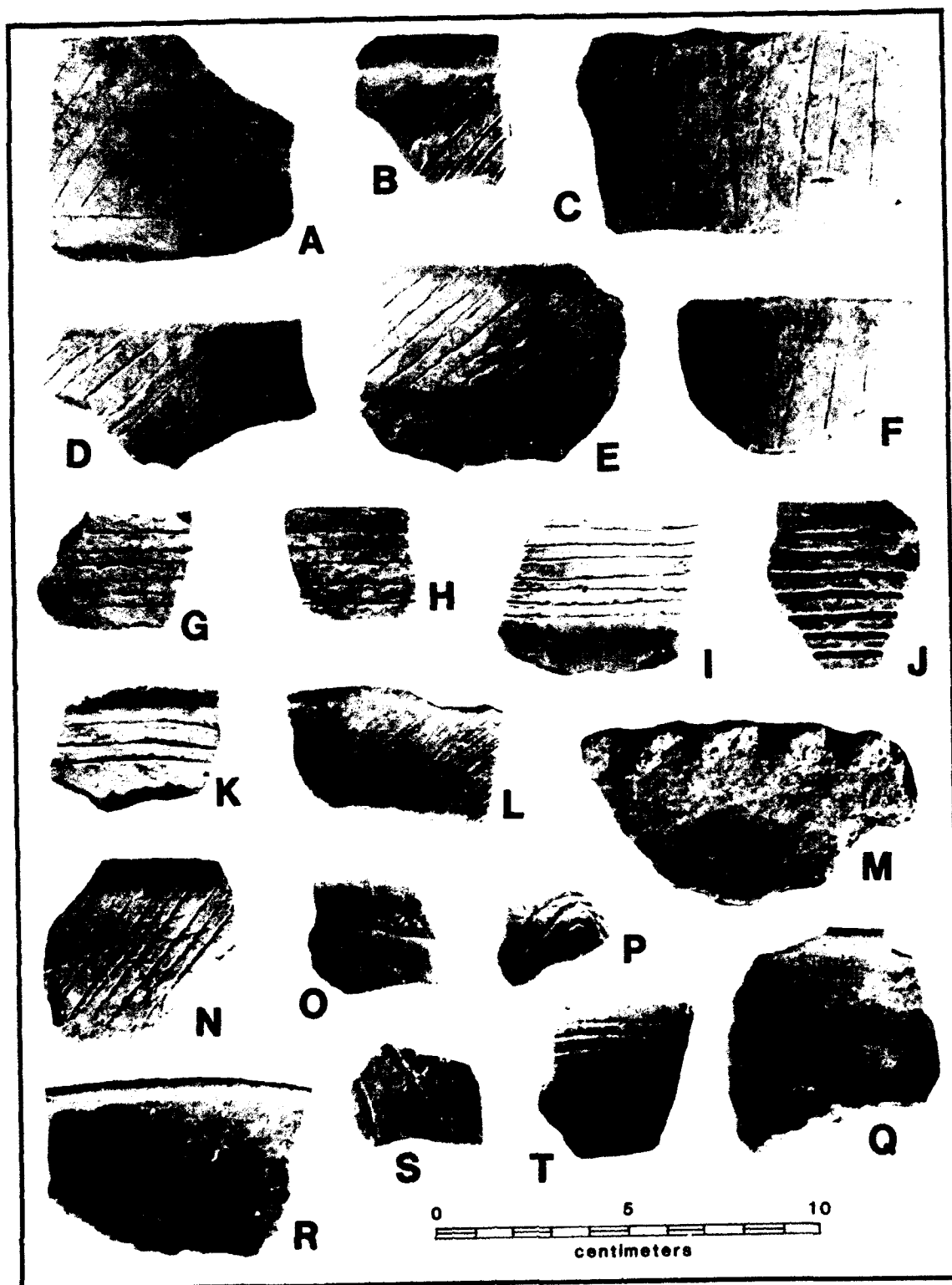


Figure 6-46. Late Coles Creek and Mississippi period ceramics from Lake Penchant (16TR 4). A-F) Mazique Incised, var. *Mazique*; G-K) Coles Creek Incised, var. *Hardy*; L) Plaquemine Brushed, var. *Plaquemine*; M) Baytown Plain, var. *unspecified* (with pinched nodes on rim reminiscent of Addis Plain); N) Anna Incised, var. *unspecified*; O) Maddox Engraved, var. *unspecified*; P) Coleman Incised, var. *unspecified*; Q-R) Mississippi Plain, var. *unspecified*; S) Owens Punctated, var. *McIlhenny*; T) Mound Place Incised, var. *unspecified*. (All from LSU collection.)

(particularly those vessels with painting only on rims or distinct portions of vessels), and is believed to date to the early Baytown period (ca. A.D. 300 or 400 to A.D. 450 or 550) (Belmont and Williams 1981:27-32, Tables 1, 2). The latter is recognized by Woodville Zoned Red, Larto Red, *var. Larto* (in which most of the vessel is painted), and French Fork Incised varieties similar to Weeden Island Incised and Weeden Island Punctated, and is believed to date to the late Baytown period (ca. A.D. 450 or 550 to A.D. 600 or 700) (Belmont and Williams 1981:32-34). Larto Red, *var. Silver Creek* may also be included, but Belmont and Williams (1981:34) believe it is more indicative of a very early Coles Creek or transitional Baytown/Coles Creek time. Thus, when all of this is taken together, it may be arguable that the Baytown component at the Lake Penchant site was strongest late within that period.

Following the Baytown period occupation, there appears to have been moderate Coles Creek usage of the site. Coles Creek Incised, *var. Athanasio* (see Figure 6-45, A-B); French Fork Incised, *var. Larkin* (see Figure 6-45, E); Mazique Incised, *vars. Mazique* (see Figure 6-45, F-G and J-K) and *Back Ridge*; and varieties *Tiger Island* (see Figure 6-45, L-P), *Lambert Ridge* (see Figure 6-45, Q), and some of the *Pontchartrain* point to an early to middle Coles Creek occupation. Coles Creek Incised, *vars. Blakely* and *Hardy* (see Figure 6-46, G-K); Mazique Incised, *var. Manchac* (see Figure 6-46, A-F); Avoyelles Punctated, *var. Tatum* (see Figure 6-45, U); Baytown Plain, *var. Little River*; and Chevalier Stamped, *var. Lulu* (see Figure 6-45, S-T) indicate a late and/or transitional Coles Creek assemblage.

Occupation apparently continued on through the Mississippi period. An early to middle Mississippi period component of the Plaquemine culture can be recognized by the types Anna Incised and Plaquemine Brushed (see Figure 6-46, L). Lastly, a late Mississippi period occupation, possibly by people of Mississippian culture proper, is seen in the sherds of Bell Plain, Mississippi Plain (see Figure 6-46, Q-R), Mound Place Incised, and Owens Punctated.

Comments and Recommendations

Although the Lake Penchant site may once have been an impressive shell midden, it is today almost entirely, if not totally, destroyed. For that reason, it is unlikely the site is of National Register quality. Nevertheless, the site's potential for providing information relative to the "beach ridge" question should not be overlooked.

In regard to components present, that aspect already has been covered in detail. It need only be reiterated here that the site may have been occupied in late Tchula or early Marksville times, but certainly was occupied during very late Marksville times (ca. A.D. 350 to 400) and continued to be utilized in a relatively unbroken manner throughout the Baytown, Coles Creek, and Mississippi periods, ending during late Mississippi times (ca. A.D. 1500 to 1700). If the quantity of ceramics from each respective cultural component is any indication of the intensity of settlement at that time, then it would seem the site was most heavily utilized during the late Baytown period, with lesser, but still substantial activity occurring during the Coles Creek and Mississippi periods. How the site functioned during any of these periods is conjectural, however, and probably never will be known, given the present condition of the locale. Considering the former site area and variety of ceramics present, it is arguable that a small village may have once existed, at least during the late Baytown through Mississippi periods. Clearly, the site also served as a major shellfish collecting area, although it probably began simply as a small-scale extraction locale.

LAKE PAGIE (16 TR 28)

Location and Description

This site is located on the west side of Lake Pague south of the point where Turtle Bayou enters the lake. It was recorded by Orton and Woods in 1952, but the site form

indicates that Bazet had visited it as early as 1930 (LDA site form). The recorders described it as a partially wave-washed shell midden, but portions of the site were apparently still intact.

Present Description

Today the Lake Pagie site consists of a beach deposit of *Rangia* shells and artifacts which extends approximately 700 ft along the shoreline of the lake (Figure 6-47). The southern half of this area follows a line of dredge spoil which extends from the shoreline into the lake. The beach deposit varies from 10 to 15 ft wide, and behind it lies a freshwater marsh.

In an effort to locate intact deposits at the site, a series of auger borings was excavated at 60-ft intervals along the lakeshore (see Figure 6-47). Most of the borings encountered only redeposited *Rangia* shells overlying marsh deposits (Table 6-16). However, Borings 3A and 3B revealed buried lenses of *Rangia* shells that may represent small remnants of intact midden. The extent of these deposits is unclear.

Upon completion of the auger testing the site was surface collected in 60-ft-long units defined by the boring locations. Tables 6-17 and 6-18 present the artifacts obtained in this collection by areas which are designated by the number of the auger boring at their northern end. For example, Area 1 extends from Boring 1 to Boring 2, while Area 2 extends from Boring 2 to Boring 3.

Slightly over half of the artifacts collected were aboriginal ceramics, some of which are illustrated in Figure 6-48, and the remainder were historic materials. The aboriginal ceramics were concentrated in Areas 4 and 6 and appear to represent two occupations, one dating to the transitional Coles Creek period, ca. A.D. 1000-1200, and the other dating to the late Mississippi period, ca. A.D. 1400-1600. The latter is based solely on the sherd of Leland Incised, var. *Foster* (see Figure 6-48, J).

The historic artifacts were concentrated in Areas 1 and 2 and consist of domestic and architectural materials associated with one or more camps which were formerly located on the site. The piers of one of these structures were present in the lake adjacent to Area 3. The ceramics suggest a late-nineteenth-to early-twentieth-century date for the occupation, and this is supported by a canning jar fragment that exhibited an embossed mark in use between 1885 and 1900 (Toulouse 1969:200-213).

In an effort to obtain additional information on the aboriginal history of the site, two collections housed at LSU were reanalyzed. One of the collections was made by Bazet in 1930 (Table 6-19) and the other was obtained by Orton and Woods in 1952 (Table 6-20). The Bazet collection provides additional evidence for a late Mississippi period occupation and suggests that this component can probably be assigned to the Delta Natchezan phase. Of greater importance, however, is the presence of a sherd of Tchefuncte Plain, var. *Tchefuncte*. This places the initial occupation of the site approximately 1000 years earlier than previously suspected, but as discussed below, is not out of line with the age of other sites in this area.

The Orton and Woods collection offers additional support for both the transitional Coles Creek and late Mississippi period occupations, and includes several artifacts worthy of note. For example, the sherd identified as Leland Incised, var. *unspecified* (see Figure 6-48, K) is on a Baytown paste rather than the usual Addis paste, and the rim sherd of Mississippi Plain is from a carinated bowl, an unusual vessel form for this type. However, the most interesting item in the collection may be the sherd of Marksville Incised, var. *Goose Lake* or var. *Prairie* (see Figure 6-48, A). It indicates the presence of a previously unrecognized Marksville occupation at the site and provides some support for the more tenuous Tchefuncte component.

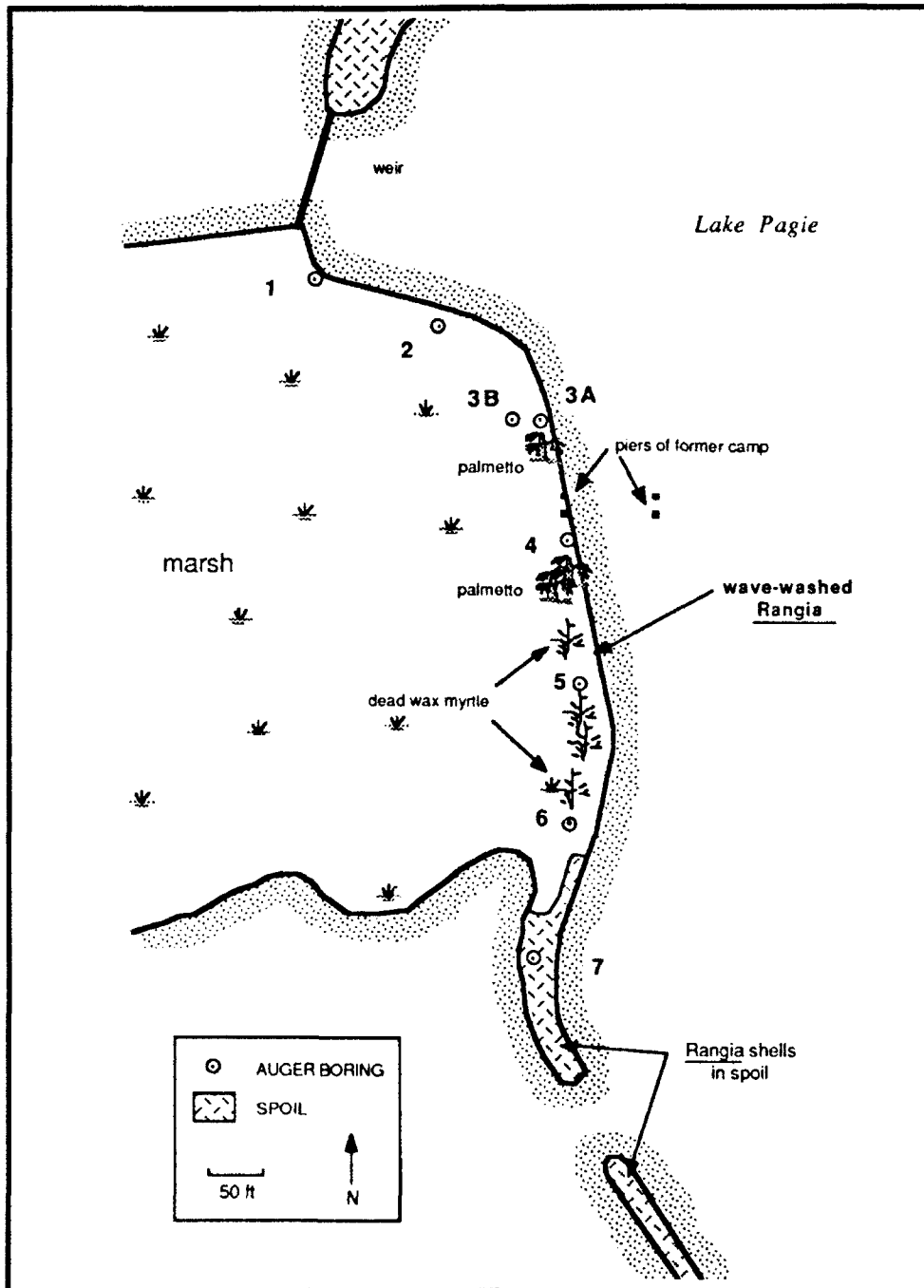


Figure 6-47. Tape and compass map of the Lake Pagie site (16 TR 28), showing extent of wave-washed shell and the locations of auger borings.

Table 6-16. Auger Boring Data from the Lake Penchant Site (16 TR 28).

AUGER BORING	DEPTH BELOW SURFACE	SOIL TYPE	COLOR	COMMENTS
1	0.0 - 0.5 ft	<i>Rangia</i> shell hash	--	Reworked midden
	0.5 - 3.0 ft	Organic clay	5Y 5/1	Marsh
2	0.0 - 0.66 ft	Organic clay with <i>Rangia</i> shell fragments	2.5Y 5/2	Reworked midden
	0.66 - 3.0 ft	Organic clay	5Y 5/1	Marsh
3A	0.0 - 0.83 ft	Organic clay with <i>Rangia</i> shells	5Y 5/1	Reworked midden
	0.83 - 2.5 ft	Organic clay	5Y 5/1	Marsh
	2.5 - 3.5 ft	Organic clay with <i>Rangia</i> shells	5Y 5/1	Marsh mixed with midden
	3.5 - 5.0 ft	Clay	5Y 5/1	Marsh
3B	0.0 - 2.0 ft	Organic clay	5Y 5/1	Marsh
	2.0 - 2.3 ft	Organic clay with <i>Rangia</i> shell fragments	5Y 5/1	Marsh mixed with midden
	2.3 - 4.0 ft	Organic clay	5Y 5/1	Marsh
4	0.0 - 0.5 ft	<i>Rangia</i> shell hash	--	Reworked midden
	0.5 - 3.0 ft	Clay	5Y 5/1	Marsh
5	0.0 - 0.92 ft	Organic clay	2.5Y 5/2	Marsh
	0.92 - 4.0 ft	Organic clay	5Y 5/1	Marsh
6	0.0 - 1.5 ft	Clay	2.5Y 5/2	Marsh
	1.5 - 2.5 ft	Organic clay	2.5Y 4/4	Marsh
	2.5 - 4.5 ft	Organic clay with <i>Rangia</i> shell fragments	5Y 5/1	Marsh mixed with midden
	4.5 - 5.5 ft	Organic clay with <i>Rangia</i> shell fragments	2.5Y 5/2	Marsh mixed with midden
	5.5 - 6.0 ft	Organic clay	5Y 5/1	Marsh
7	0.0 - 0.83 ft	<i>Rangia</i> shell hash	--	Reworked midden
	0.83 - 4.0 ft	Organic clay	5Y 5/1	Marsh

Comments and Recommendations

The Lake Pagie site is a *Rangia* shell midden with a long occupational history that has now been almost completely destroyed by erosion. The site was apparently associated with the natural levee of a distributary channel now occupied by Turtle Bayou. Smith et al. (1986:Pl. 53) identify this channel as a Lafourche distributary, but the presence of a Tchula period occupation on it suggests that either the Lafourche delta began prograding through this area earlier than presently suspected or the channel was initially formed by the Teche. Two other Tchefuncte components (16 TR 31 and 16 TR 211) and a Poverty Point component (16 TR 212) have also been found in association with this distributary, providing additional evidence of its early date.

The Lake Pagie site continued to be occupied intermittently into the late Mississippi period and was finally the scene of a late-nineteenth- or early-twentieth-century camp. Although much of the site has now been destroyed, small areas of intact deposits appear to be present. These may yet provide important information on the sequence of cultural development

Table 6-17. Aboriginal Ceramic Counts and Percentages for the Lake Pagie Site (16 TR 28).

AREA	CERAMICS	RIM	BODY	TOTAL
1	Baytown Plain var. <i>unspecified</i>	1	4	5
	Mazique Incised var. <i>Manchac</i>	0	1	1
2	Avoyelles Punctated var. <i>Tatum</i>	1	0	1
	Baytown Plain var. <i>unspecified</i>	0	1	1
	Coles Creek Incised var. <i>Hardy</i>	0	1	1
3	Baytown Plain var. <i>unspecified</i>	1	1	2
4	Baytown Plain var. <i>unspecified</i>	1	24	25
5	Baytown Plain var. <i>unspecified</i>	1	0	1
6	Baytown Plain var. <i>unspecified</i>	0	1	1
7	Baytown Plain var. <i>unspecified</i>	0	1	1
	Leland Incised var. <i>Foster</i>	0	1	1
Total		5	42	47

in this region, and for this reason the site is considered potentially eligible for the National Register of Historic Places.

BAYOU DE CADE (16 TR 31)

Location and Previous Description

First recorded by Orton and Woods in June 1952, this site was described as a well-preserved shell midden located on the south bank of Bayou De Cade, west of the mouth of Turtle Bayou (LDA site form). The exact distance west of Turtle Bayou is not given, however. The site was about 1.5 ft high, 25 ft long, and supported several oaks and other small trees. The only accurate location given is based on latitude and longitude coordinates. These place the site about 0.55 mi west of Turtle Bayou and 0.5 mi east-southeast of the entrance to Jug Lake. This location also is shown on maps at the LDA.

Orton and Woods made a small collection at the locale, but it apparently never was analyzed, as McIntire (1958) only included the site on his general site-distribution map (Pl. 2). Neuman (1977:22), likewise, provides little information, repeating only the site-form data.

Based on the work of Smith et al. (1986:Pl. 54), the Bayou De Cade channel at the location of 16 TR 31 is a continuation of the Turtle Bayou distributary. This is identified as a

Table 6-18. Historic Artifacts from the Lake Pagie Site (16 TR 28).

AREA	TYPE	ARTIFACT CATEGORY	DESCRIPTION	NUMBER	TOTAL
1	Brick Ceramic	Whiteware	Fragment	2	19
		Semi-porcelain	Undecorated	2	
		Unknown	Undecorated	1	
		Unknown	Figurine, stamped: "GERMA..."	1	
	Glass	Opaque blue	Jar base, embossed: "...DE IN/ ...USA E"	1	
		Green	Unidentified	1	
		Clear	Window	3	
	Metal		Unidentified	8	
2	Brick Ceramic Glass	Whiteware	Fragment	1	18
		Clear	Undecorated	3	
			Window	2	
			Unidentified	1	
	Metal	Purple	Unidentified	1	
			Unidentified	10	
3	Brick		Fragment	1	2
	Glass	Green	Unidentified	1	
4	Ceramic Glass	Stoneware	Tan slip	1	3
		Clear	Canning jar, embossed: "...son.../...TENT/...ov. 30th/1858"	1	
	Metal		Unidentified	1	
5	Metal		Unidentified	1	1
6	Brick Ceramic	Stoneware	Fragment	1	2
			Brown alkaline glaze	1	
Total					45

Lafourche distributary, but it is one of the earliest as it is masked by later channels, such as Marmande Ridge. As will be seen, the earliness of the channel is supported by data from 16 TR 31.

Present Description

Today, the site location provided by the latitude and longitude coordinates is a highly eroded section along Bayou De Cade, marked by numerous fishing and hunting camps and scattered dead oak trees (Figures 6-49 and 6-50). The fact that all of the oaks are now as much as 40 ft offshore, indicates that the bankline erosion along the bayou has been severe.

Two areas of *Rangia* shell were noted while examining the bank (see Figure 6-49). One consisted of a small stretch of wave-washed beach material, while the other, at "La Chateau Poisson Rouge," was marked by a small beach deposit and scattered shell in recently dredged spoil. Neither area contained artifacts or other evidence of a past site.

It presently is impossible to determine where site 16 TR 31 originally stood. Any one of the clusters of dead oaks, or possibly the two *Rangia* concentrations, could represent the

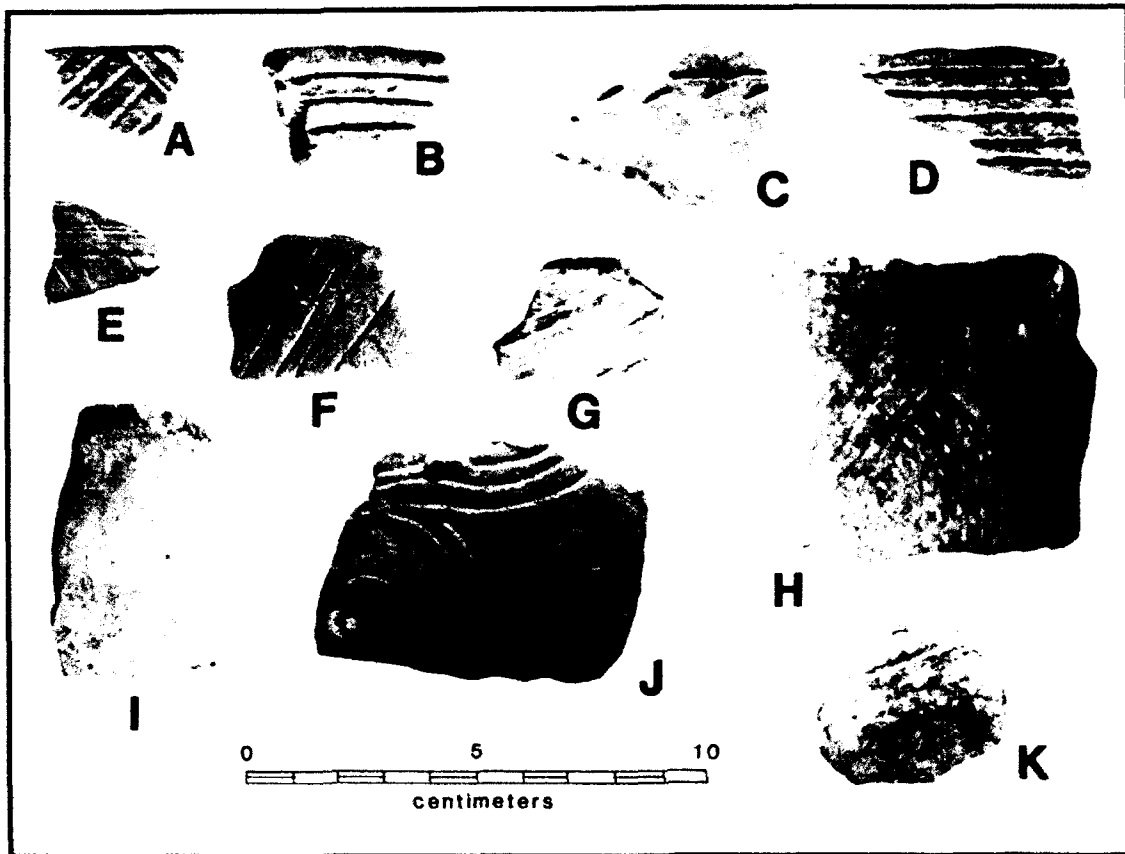


Figure 6-48. Aboriginal ceramics from Lake Page (16 TR 28). A) Marksville Incised, var. *Goose Lake* or *Prairie*; B-E) Coles Creek Incised, var. *Hardy*; F-G) Mazique Incised, var. *Manchac*; H) Avoyelles Punctated, var. *Tatum*; I) Baytown Plain, var. *unspecified* (from slightly restricted, subglobular bowl); J) Leland Incised, var. *Foster*; K) Leland Incised, var. *unspecified*. (A-D, G, and K from LSU Orton and Woods collection; E and H, CEI Area 2; F, CEI Area 1; I, CEI Area 5; J, CEI Area 7.)

former location. Probing in and around the oaks and on shore adjacent to the shell beach deposits failed to hit intact shell. Taken all together, therefore, it must be assumed that site 16 TR 31 has been destroyed by bankline erosion.

In an effort to obtain some useful information from site 16 TR 31, the original Orton and Woods collection (Catalogue No. 52-138) was relocated at the LSU Museum of Geoscience and analyzed (Table 6-21 and Figure 6-51). The sample, though small, is surprisingly informative and points to a relatively early occupation. In fact, the early Marksville component, represented by the sherd of *Prairie* (see Figure 6-51, B), is bolstered if one considers that the two sherds of *Yokena* (see Figure 6-51, A) could pass as var. *Sunflower* if their paste was a bit softer, while the *unspecified* sherd of Marksville Incised could be either *Sunflower* or *Yokena*. On the other hand, paste of the Tchefuncte Plain sherd is right on the line with Baytown Plain, suggesting that it is very late within the Tchula period. Thus, probably three components are represented: late Tchula and early and late Marksville, with the early Marksville component apparently the strongest.

Table 6-19. Ceramic Counts and Percentages for the Lake Pagie Site (16 TR 28), Bazet Collection at LSU, Cat. No. 53-456.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Addis Plain <i>var. Addis</i>	0	4	4	21.0	--
Addis Plain <i>var. Junkin</i>	0	1	1	5.3	--
Baytown Plain <i>var. unspecified</i>	1	10	11	57.9	--
Coles Creek Incised <i>var. unspecified</i>	0	1	1	5.3	50.0
Leland Incised <i>var. Foster</i>	0	1	1	5.3	50.0
Tchefuncte Plain <i>var. Tchefuncte</i>	0	1	1	5.3	--
Total	1	18	19	100.1	100.0

Table 6-20. Ceramic Counts and Percentages for the Lake Pagie Site (16 TR 28), Orton and Woods Collection at LSU, Cat. No. 52-135.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	3	46	49	81.7	--
Coles Creek Incised <i>var. Hardy</i>	1	2	3	5.0	33.3
Leland Incised <i>var. unspecified</i>	0	1	1	1.7	11.1
Marksville Incised <i>var. Goose Lake or</i> <i>var. Prairie</i>	0	1	1	1.7	11.1
Mazique Incised <i>var. Manchac</i>	1	2	3	5.0	33.3
Mississippi Plain <i>var. unspecified</i>	1	1	2	3.3	--
Unclassified incised on Baytown paste	0	1	1	1.7	11.1
Total	6	54	60	100.1	99.9

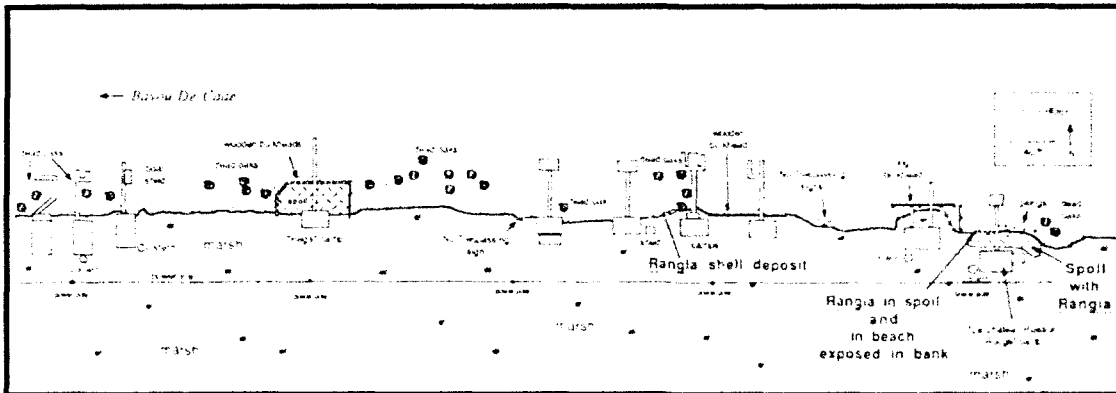


Figure 6-49. Sketch map of the reported location of the Bayou De Cade site (16 TR 31), showing the highly eroded nature of the bankline, the numerous camps now present at the locale, and the location of CEI probes.



Figure 6-50. Former location of the Bayou De Cade site (16 TR 31). Note dead oak trees in the bayou marking former position of the eroded bank. View to the east-southeast. Date: 3/27/87.

In addition to the pottery, the collection included 16 lumps of fired clay, at least one of which is daub. Thus, it seems likely that the site once supported a structure with mud-plastered walls.

Comments and Recommendations

Although this site no longer exists, it is an extremely important locale from a paleogeographical point of view. As noted, the Turtle Bayou distributary (of which this

Table 6-21. Ceramic Counts and Percentages for the Bayou De Cade Site (16 TR 31), LSU Collections.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	0	24	24	80.0	--
Marksville Incised <i>var. Prairie</i>	1	0	1	3.3	20.0
<i>var. Yokena</i>	2	0	2	6.7	40.0
<i>var. unspecified</i>	0	1	1	3.3	20.0
Tchefuncte Plain <i>var. Tchefuncte</i>	0	1	1	3.3	--
Unclassified incised on Baytown paste	1	0	1	3.3	20.0
Total	4	26	30	99.9	100.0

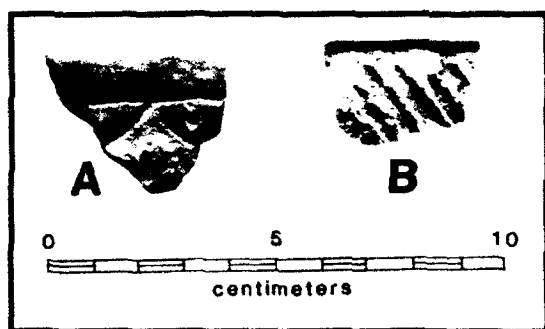


Figure 6-51.

Aboriginal ceramics from Bayou De Cade (16 TR 31). A) Marksville Incised, *var. Yokena*; B) Marksville Incised, *var. Prairie*. (Both from LSU collection.)

portion of Bayou De Cade is a part) is probably one of the earlier of the recognized distributary channels in this portion of the study area. Smith et al. (1986:Pl. 54) suggest that it, along with other channels emanating from the direction of Bayou du Large, originated as part of the Lafourche-Mississippi Delta (ca. 2000 to 500 B.P.) (Smith et al. 1986:40). On the other hand, Weinstein and Gagliano (1985:123, Fig. 6) suggest that Bayou du Large, along with several of its distributaries, actually began as segments of the earlier Teche-Mississippi Delta (ca. 5800 to 3900 B.P.), and later was reoccupied by Lafourche Delta courses which continued to build up the natural levees of these channels.

The presence of a site with late Tchula and early Marksville components associated with the Turtle Bayou distributary could conceivably indicate that the site was occupied during the very early stages of the Lafourche system. A more likely scenario, however, and one which will be supported by additional evidence to be supplied later, is that Turtle Bayou is, in fact, a relict Teche-Mississippi distributary channel which was reoccupied following abandonment of the Teche Delta system.

BILLIOT CANAL (16 TR 44)

Location and Previous Description

Located originally by Bazet, this site was reported to McIntire and Kniffen in the early 1950s. The latter two men filed a site form in August 1952 which described the locale as a

300-ft-long shell midden in a fair state of preservation, stretching along the north shore of Lake De Cade at the mouth of Billiot Canal (LDA site form). They noted that the site was probably associated with a subsided natural levee.

Although a collection (Catalogue No. 52-360) was donated by Bazet to LSU, there apparently was little chronological information in it, as the site is shown only on McIntire's general site-distribution map (Pl. 2) in his 1958 study. This collection could not be relocated for analysis during the present study. Neuman (1977:22) recorded only that pottery had been collected at the site.

According to Smith et al. (1986:Pl. 50), a possible Lafourche distributary channel is located to the northeast of the site, and may have continued towards the southwest, having been truncated by the Lake De Cade shoreline at the approximate location of Billiot Canal. If this is indeed the case, then the Billiot Canal site almost certainly is associated with this feature.

Present Description

Surprisingly, it was not the shell along the lake shoreline which was the most promising aspect of the Billiot Canal site when the locale was revisited during the present study, but, rather, an intact, subsided *Rangia* shell midden located just inland from the lake (Figures 6-52 and 6-53). This midden is marked by a low rise about 0.5 ft high, measuring approximately 120 ft long by 40 ft wide, and supports several trees (including one large dead oak) and an understory of palmettos. A narrow ditch, which is probably Billiot Canal, passes by the site to the north, while a low, linear depression is present just west of the site. This latter feature may mark the location of the former crevasse distributary noted by Smith et al.

In order to better ascertain the subsurface dimensions of the site, a systematic series of probes was placed into the marsh adjacent to the elevated midden area (see Figure 6-52). The probes showed that the buried midden covers a far greater area than that exposed above the marsh, measuring about 400 ft long by 110 ft wide. A single auger boring was drilled through the elevated site area in an effort to determine site thickness. The boring showed very simple stratification: 0 to -2.7 ft, black (10YR 2/1) peat, the lower 0.5 ft of which contained *Rangia*; -2.7 to -7.9 ft, black (2.5Y 2/0) silty clay with *Rangia*; -7.9 to -9.0 ft, very dark gray (5Y 3/1) clay. The upper stratum of peat represents a thin covering of marsh, while the second stratum is the shell midden, and the third stratum is the natural levee upon which the site developed. Thus, when the elevated estimate of 0.5 ft is added to the buried midden, a total thickness of 8.4 ft is obtained. Unfortunately, no artifacts were discovered, so there are no data on the age or cultural affiliation of the midden.

In addition to the intact midden, the survey team examined the Lake De Cade shoreline. Recent dredging along the shore has deposited a low spoil bank atop the marsh in an apparent effort to retard saltwater intrusion and subsequent marsh deterioration. Since the spoil came from within the lake, it includes modern *Rangia* and freshwater mussels which become part of the beach as the spoil is eroded by wave action. Thus, an extensive shell beach is visible along the Lake De Cade shoreline, from a point approximately 1.3 mi east-northeast of the mouth of Billiot Canal to about 1.1 mi to the west-southwest. Not all of this is wave-washed site, however, as artifacts were collected only within a distance of about 0.4 mi either side of the canal. These undoubtedly came from a now-destroyed shell midden (or middens), probably quite similar to the one still remaining, that was once located along the same distributary channel prior to lakeshore transgression. Unfortunately, again, although artifacts were found, the collection is not very revealing. It does, at least, point to one component being relatively late. The sample included 10 sherds of Baytown Plain, var. *unspecified* (two rims and eight body sherds) and one sherd of Mississippi Plain, var. *unspecified*.

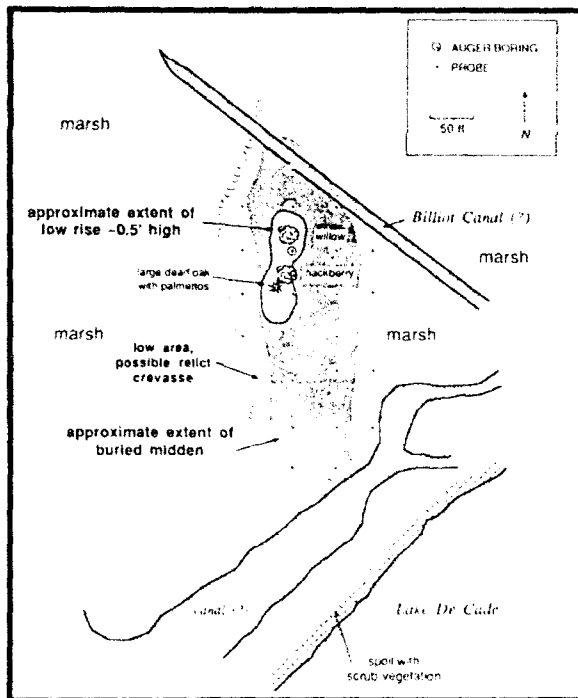


Figure 6-52.

Compass and tape map of the subsided shell midden at the Billiot Canal site (16 TR 44), showing approximate extent of buried midden and locations of the auger boring and systematic probes.



Figure 6-53. Stand of oak, hackberry, and willow trees marking the location of intact midden at the Billiot Canal Site (16 TR 44). View to the northwest. Date: 12/19/86.

Comments and Recommendations

This site proved to be in a far better state of preservation than expected, although, clearly, at least one midden has been destroyed by shoreline erosion. Based on what little data are presently available, it may be surmised that the site served as an extraction camp, although its size may argue for a more permanent type of habitation. Given the size and thickness of the existing midden, the site may have some fairly early components in its lower deposits. For now, however, all that can be identified by the sherd of Mississippi Plain is a late component at the destroyed midden, probably dating between A.D. 1500 and 1700. The Baytown Plain sherds could represent any number of occupations spanning the time between the Marksville and early Mississippi periods, and, thus, are of little help in defining the potential earlier components.

As the site contains a well-preserved, apparently totally intact shell midden, it undoubtedly is eligible for inclusion in the National Register.

MARMANDE RIDGE (16 TR 49)

Location and Previous Description

This impressive site originally was reported by McIntire in July 1952, based on information supplied by Randolph Bazet. It was described as a large, dredged shell midden in the marsh between Marmande Ridge and Billiot Canal (LDA site form). In actuality, the site is located at the southwestern end of a canal that leaves the Lower Marmande Canal about 1.3 mi southwest of the latter's junction with Minors Canal. While the Lower Marmande Canal was excavated to allow barges to transport sugar cane from fields on Marmande Ridge to the Marmande Plantation sugarmill at Theriot, the canal leading to 16 TR 49 was dug specifically to allow access to the site for shell mining. When this occurred is not known by the present authors, but it most likely took place during the 1930s or '40s, as that seems to be the period of the most intense shell-mining operations in the region.

Although the site form notes that an artifact collection was obtained by Bazet, and subsequently was catalogued into McIntire's system at LSU (Catalogue No. 52-365), the collection was not included by McIntire in his 1958 study. In fact, no collection from the site could not be relocated at the LSU Museum of Geoscience when the museum was searched during the present project. The only references to the site, therefore, are on McIntire's (1958:Pl. 2) general site-distribution map and Neuman's (1977:22) later summary of all coastal Louisiana sites. In the latter case, Neuman simply records the site as a shell midden.

Prior to field investigations, it was uncertain as to the type of landform upon which the site developed. Smith et al. (1986:Pl. 50) show no channels or natural levees at the location of 16 TR 49, although they do plot two Lafourche distributary channels to the northwest and south of the site, each about 0.2 mi away. The northern channel actually is the eastern end of the Turtle Bayou distributary, which, as seen previously, has the potential of being one of the earliest features in the area. Both channels almost merge with one another about 0.6 mi southwest of the site, and it is the convergence of the two sets of natural levees which may have provided the expanse of firm ground necessary for site development. Another possibility considered prior to fieldwork, was that the Marmande Ridge site actually rested atop a portion of the relict beach ridge identified to the west, and discussed earlier under the review of the the Bayou Penchant I (16 TR 47) and Lake Penchant sites (16 TR 4). McIntire (1958:73) alluded to this possibility when he noted that site 16 TR 43, situated to the east of the Marmande Ridge site, was a dredged shell midden that may have developed on a former lake beach.

Present Description

The Marmande Ridge site today is still a large and well-preserved site, despite the fact that about one-third of it was removed during the shell-mining operation (Figures 6-54 and 6-55). The mining destroyed most of the western end of the locale and left a large pond in its place. The perimeter of the pond is ringed with spoil piles containing extensive quantities of *Rangia* midden. It is the area east of the pond, however, which still is in situ and at which the field crew devoted most of its time. This portion of the site is illustrated in the compass and tape map shown in Figure 6-54.

Basically, the remaining site measures about 270 ft east-west and 220 ft north-south at its widest point by the pond. It tapers almost to a point at its eastern end. Numerous low ridges of earth and *Rangia* project above the swamp in this area, and mark the tips of subsided midden piles. Probing every 50 ft along an east-west line showed that, in actuality, the intervening swamp areas simply were lower portions of one continuous shell accumulation, and that all of the swamp area is underlain by site.

The most prominent feature present at the site is Mound A, a large, flat-topped, earth-and-*Rangia* structure, almost certainly built as a pyramidal mound (Figure 6-56). It measures about 75 ft long, by 60 ft wide, and stands approximately 5 to 6 ft above the swamp. A careful search of its summit and flanks produced the only artifacts found at the entire site: two body sherds of Baytown Plain, *var. unspecified*.

North of Mound A is a low rise about 0.5 to 1.0 ft high, labeled Midden B (see Figure 6-54). To its north was a more-extensive rise, called Midden C, about 0.5 to 1.0 ft high, also. East of Midden C is low, crescent-shaped ridge only about 0.5 ft in height, but containing *Rangia*, and called Midden D. Southeast of Midden D are two more rises, approximately 1 to 2 ft in height, and identified as Middens E and F. At the eastern end of the site are several more midden projections, each of which is between 0.5 and 1 ft in elevation, and which were called Middens G and H. Midden G, in reality, is composed of two adjacent rises that undoubtedly are connected below the surface. In fact, as noted previously, it is probable that all of the middens and Mound A rest on one massive shell-midden base.

In an effort to determine the depth of the site, and to identify the submidden landform upon which the site was established, an auger boring was placed down along the western edge of Mound A (see Figure 6-54). The boring revealed the following: 0 to -0.7 ft, black (10YR 1/2) silty clay; -0.7 to -8.5 ft, very dark grayish brown (10YR 3/2) silty clay with *Rangia*; -8.5 to -12.0 ft, dark greenish-gray (5GY 4/1) stiff silty clay with oxidation streaks. The upper stratum is interpreted as the modern swamp deposit, the middle stratum is the shell midden, and the lower stratum is natural levee. Thus, it appears the site is at least 8.5 ft thick below the present swamp, is thicker in areas where midden projects above the surface, and is deposited on a subsided natural-levee base, not a relict beach ridge remnant.

Comments and Recommendations

Although partly destroyed by past shell-mining activity, the Marmande Ridge site still retains about two thirds of its former area intact. Several midden piles and one pyramidal mound are the prominent features present today. Undoubtedly, the site served as an important village during prehistoric times, but exactly when this occurred cannot now be determined. Nor is it possible to determine the age of initial site occupation. Clearly, however, the site is eligible for inclusion in the National Register of Historic Places.

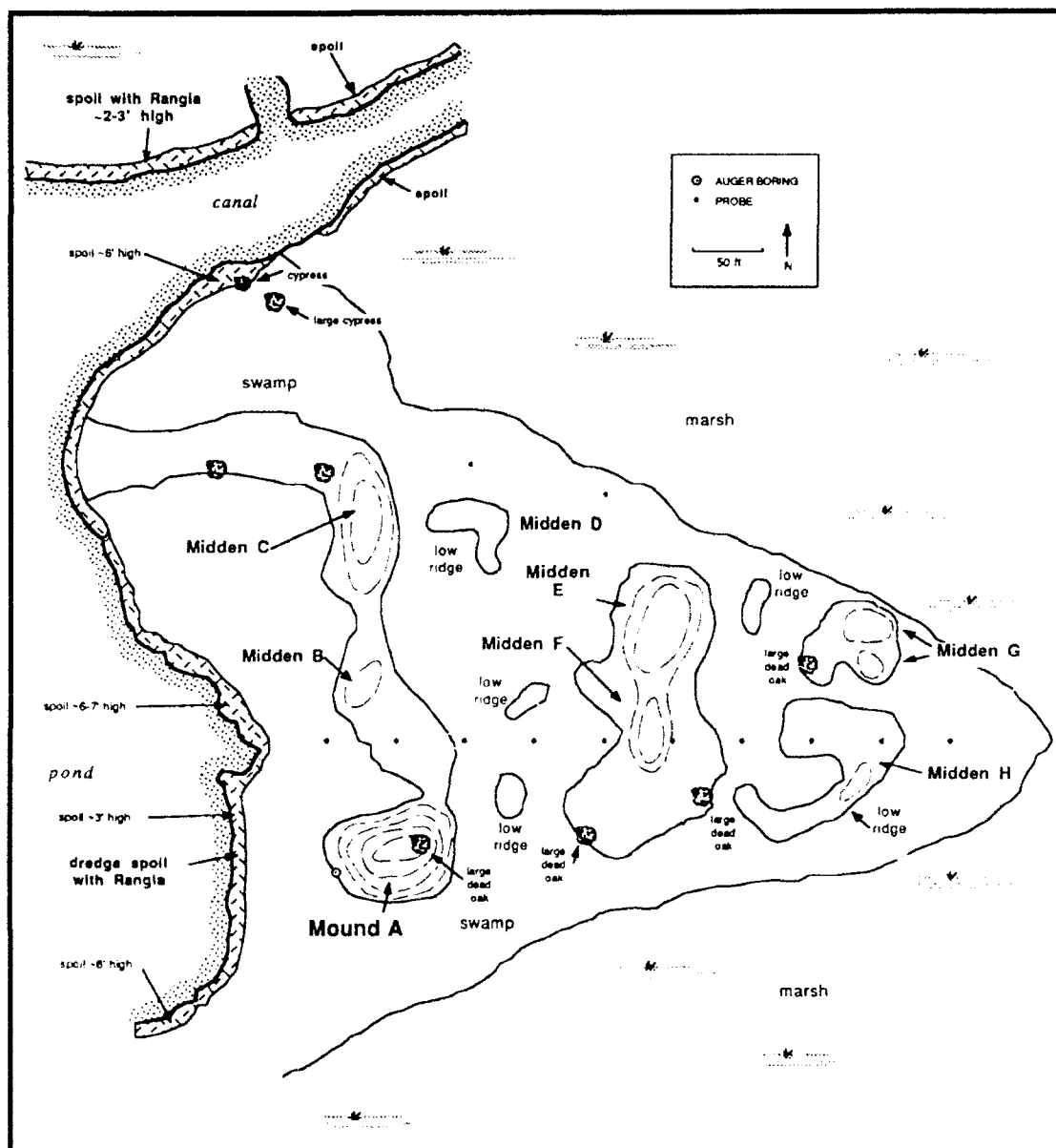


Figure 6-54. Compass and tape sketch map of the Marmande Ridge site (16 TR 49), showing pyramidal Mound A and associated midden projections. The locations of CEI's auger boring and probes also are shown. (Dashed lines are contour estimates only; used to give a general impression of elevation.)

TURTLE BAYOU (16 TR 50)

Location and Previous Description

This rather impressive shell midden is located on the west bank of Turtle Bayou about 2.9 mi up the bayou from its junction with Bayou De Cade. It originally was reported by



Figure 6-55. Eastern portion of the Marmande Ridge site (16 TR 49), as viewed from the surrounding marsh. Looking to the northeast. Date: 4/1/87.



Figure 6-56. Mound A at the Marmande Ridge site (16 TR 49). View to the south. Date: 4/1/87.

McIntire in June 1952, and at that time was estimated to be 5 ft high, 150 ft wide, and 200 ft long (LDA site form). McIntire noted that the site was covered with oak, pecan, hackberry, and fig trees, and that a family once lived on the midden. In fact, it was reported that a boy, about seven years of age, had been buried on the site.

Although McIntire obtained a small collection of artifacts, of which more will be related later, the site was only noted on the general distribution map (Pl. 2) in his 1958 study. Neuman (1977:23) next simply repeated McIntire's description, and suggested that there were no data on possible cultural affiliation.

In 1978 the site was visited briefly by L. W. Patterson who filed a site-update form (LDA site form), reporting a large *Rangia* shell midden, approximately 200 ft in diameter and 10 ft high. Patterson also obtained a small collection which, according to his site form, included sherds of Pontchartrain Check Stamped and Evansville Punctated, *var. Braxton*. Based on this, he suggested Baytown and Coles Creek occupations, although *Braxton* could actually represent a late Marksville component. Smith et al. (1986:Pl 49) identify Turtle Bayou as a Lafourche distributary channel, although there is strong evidence (as noted earlier) that the channel actually is a Teche-age course. More will be said on this later.

Present Description

The Turtle Bayou site appears to have changed little in appearance and condition since McIntire's visit over 35 years ago (Figures 6-57 and 6-58). As can be seen by the compass and tape map shown in Figure 6-59, a camp and associated docks and boat sheds have been built on and adjacent to the midden, but do not appear to have caused much disturbance. The elevated portion of the site actually consists of two ridges of shell connected by a low saddle. The western ridge is aligned roughly north-northeast to south-southwest and supports a fine stand of live oak trees and palmettos (Figure 6-60). It projects about 3.5 ft above the adjacent marsh at its highest point, and measures approximately 170 ft long by 80 ft wide. The eastern ridge is aligned east-northeast to west-southwest and is the foundation for the modern camp. It is clear of most trees, and may have been modified slightly to support the camp. This ridge stands about 3 ft tall and measures about 150 ft long by 100 ft wide at its widest point near Turtle Bayou. A small unnamed bayou passes by the site along its south edge, leading into the marsh to the west, and may represent a relict crevasse channel off of Turtle Bayou, and thus, would explain the orientation of the eastern ridge.

Two auger borings were placed down at the eastern and western edges of the site, specifically at the N00E135 and N00W100 points, in an effort to determine thickness of the midden deposits. Table 6-22 provides details on each boring. As can be seen, the eastern boring encountered *Rangia* midden between -3.1 and -4.9 ft, below which were apparent channel-fill deposits, suggesting that this portion of the site laps over a portion of the ancient Turtle Bayou distributary channel. The western boring penetrated solid shell midden from -2.8 to -7.8 ft, at which point natural levee clays were encountered. When the depth of 7.8 ft is added to the estimated height of 3.5 ft, the overall thickness of the midden becomes 11.3 ft.

In an effort to clarify the cultural sequence at the site, a systematic surface collection was conducted. However, since so little material was located (24 sherds), an opportunistic sampling strategy was initiated. Following this latter procedure, however, resulted in even less material (only one sherd). All told, 24 sherds of Baytown Plain, *var. unspecified*, and one sherd of Pontchartrain Check Stamped, *var. Pontchartrain* make up the present collection, a fact that does little to enhance the information supplied by Patterson in 1978.

Fortunately, McIntire's 1952 collection (Catalogue No. 52-366) is still housed at the LSU Museum of Geoscience. Although small, it tends to confirm the potential late Marksville



Figure 6-57. The Turtle Bayou site (16 TR 50) as viewed from Turtle Bayou. Looking to the north. Date: 12/17/86.



Figure 6-58. View of the Turtle Bayou site (16 TR 50), as seen from the surrounding marsh. Looking to the south-southeast. Date: 3/19/87.

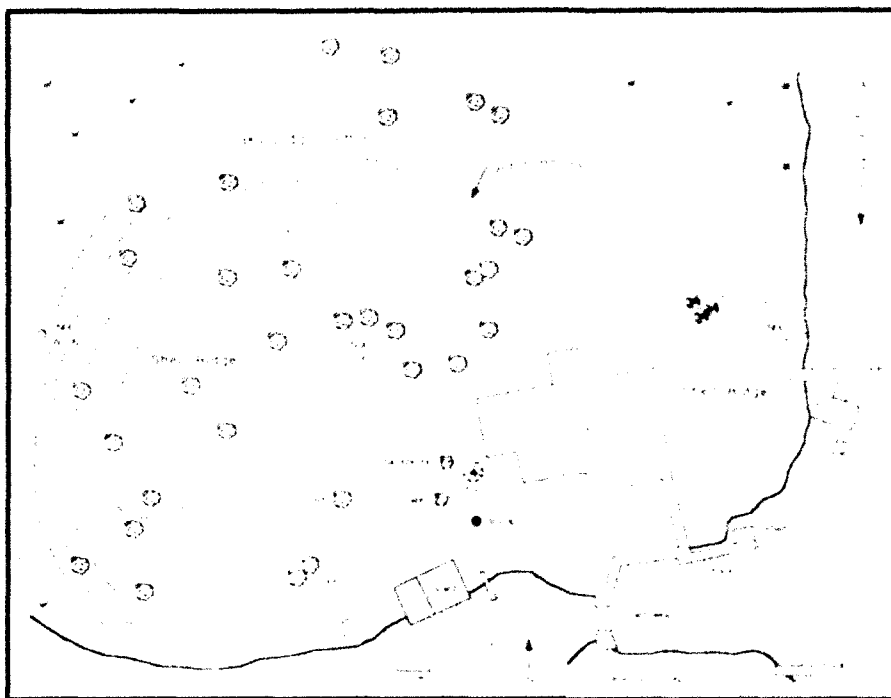


Figure 6-59. Compass and tape sketch map of the Turtle Bayou site (16 TR 50), showing the camp and associated buildings presently situated on the locale and the location of the auger borings placed down at opposite ends of the site. (Dashed lines are contour estimates only; used to give a general impression of elevation.)



Figure 6-60. Close-up view of the western shell ridge at the Turtle Bayou site (16 TR 50). Looking to the northwest. Date: 12/17/86.

Table 6-22. Auger Boring Data from the Turtle Bayou Site (16 TR 50).

AUGER BORING	DEPTH BELOW SURFACE	SOIL TYPE	COLOR	COMMENTS
N00E135	0.0 - 0.4 ft	Silt with <i>Rangia</i> fragments	10YR 2/1	Humus
	0.4 - 1.6 ft	Silty clay with peat	10YR 3/1	Marsh deposit
	1.6 - 3.1 ft	Silty clay with peat and <i>Rangia</i> fragments	10YR 3/1	Marsh deposit
	3.1 - 4.9 ft	Silty clay with <i>Rangia</i>	5Y 3/1	<i>Rangia</i> midden
	4.9 - 5.5 ft	Peaty clay with <i>Rangia</i> fragments	10YR 3/1	Channel fill
	5.5 - 8.0 ft	Peaty clay	10YR 3/1	Channel fill
N00W00	0.0 - 0.9 ft	Peaty clay with <i>Rangia</i>	10YR 2/1	Marsh and slope wash off midden
	0.9 - 2.8 ft	Clay	2.5Y 3/0	Marsh deposit
	2.8 - 7.8 ft	Clay with <i>Rangia</i>	2.5Y 3/0	<i>Rangia</i> midden
	7.8 - 9.0 ft	Clay	5BG 4/1	Natural levee

initial occupation date: 18 Baytown Plain, *var. unspecified*; one Marksville Incised, *var. Yokena*; and one Pontchartrain Check Stamped, *var. Pontchartrain*.

Comments and Recommendations

The Turtle Bayou site is a well-preserved, relatively thick *Rangia* midden composed of two shell ridges roughly perpendicular to one another. The site undoubtedly is eligible for inclusion in the National Register.

Based on the limited ceramic data available, late Marksville, Baytown, and Coles Creek occupations (ca. A.D. 350 to 1000) may be hypothesized. However, considering the overall site thickness and the early age of the Turtle Bayou distributary, it seems likely that earlier components exist in the lower levels of the midden. Similarly, although it cannot now be confirmed, it would appear probable that the site served as a small village, at least during its later occupations, in addition to its obvious function as a shellfish-collecting station.

BAYOU DU LARGE (16 TR 56)

Location and Previous Description

This site is located on the north side of Bayou du Large approximately 0.6 mi east of its junction with Bayou New Route. The site was recorded in 1952 by McIntire, who described it as a small shell midden that was largely destroyed (LDA site form). Although it appears on the site distribution map of his 1958 report (McIntire 1958:Pl. 2), he did not present any data on the artifacts recovered from it. It is possible that McIntire was simply shown the site and never made a collection there, for attempts to locate this material at LSU were unsuccessful. It should be noted that the Bayou du Large site mentioned by Phillips (1970:Fig. 446 and 447) is not this site, but 16 TR 19.

Present Description

Today 16 TR 56 consists of a reworked deposit of *Rangia* shells and abundant artifacts that extends for approximately 1200 ft along the base of the bankline of Bayou du Large (Figure 6-61). Back from the bayou lies a brackish marsh that is broken only by two clumps

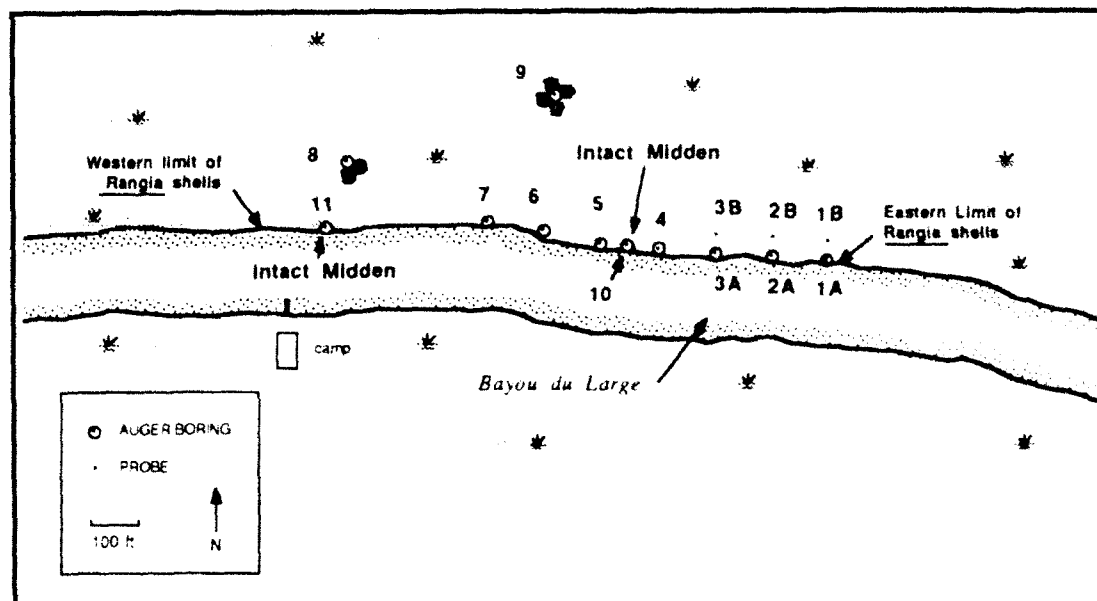


Figure 6-61. Compass and tape map of the Bayou du Large site (16 TR 56), showing extent of wave-washed shells and locations of intact, bankline midden lenses, auger borings, and probes.

of small live oaks and yaupon (Figure 6-62). Two small areas of intact midden are exposed in the streambank, one near the center of the site (Figure 6-63) and the other near its western end.

In an effort to better define these intact deposits and to locate additional ones not exposed in the bankline, a series of auger borings was excavated at the site. Due to the size of the site the distance between borings was increased to 120 ft. The first seven borings all encountered similar stratigraphy. The uppermost stratum consisted of 10 to 20 in of slightly oxidized dark gray (5Y 4/1 gley) soft organic clay. Beneath that to a depth of at least 4.0 ft was a greenish gray (5GY 5/1 gley) soft organic clay. Both strata represent recent marsh deposits. Small fragments of redeposited *Rangia* shells occurred in the upper 5 in of Boring 1A, but were not present in the other borings. A series of probe tests was placed 20 ft north of the first three borings, but these also failed to reveal buried shell deposits.

Time constraints prevented the completion of the systematic augering, and instead a boring was excavated in each of the clumps of trees and the intact midden areas, and the limits of the midden areas were defined by probing. Borings 8 and 9, placed among the small trees, encountered gray (5Y 5/1 gley) and grayish brown (2.5Y 5/2) soft clay to a depth of at least 6.0 ft. No *Rangia* shells were present, and it is not clear what features the trees are resting on.

Boring 10 was excavated near the center of the eastern midden deposit. It encountered 12 in of slightly oxidized gray (5Y 5/1 gley) organic clay overlying 14 in of dark gray (5Y 4/1) silty clay with *Rangia* shells. The upper stratum represents a recent marsh deposit, while the lower zone is the intact shell midden. Underlying the midden to a depth of at least 5.0 ft was an oxidized grayish brown (2.5Y 5/2) clay, which is interpreted as the natural levee of the distributary channel now occupied by Bayou du Large. Examination of the bankline and probing back from the bank indicate that this midden deposit extends approximately 40 ft east-west and 20 ft north-south.



Figure 6-62. Eroding shell midden along the north bank of Bayou du Large at the Bayou du Large site (16 TR 56). Small clump of live oak and yaupon trees in background. View to the north-northwest. Date: 12/19/86.



Figure 6-63. Close-up view of the central *Rangia* midden exposed in the bank of Bayou du Large at the Bayou du Large site (16 TR 56). Looking to the north Date: 12/19/86.

Boring 11 was placed near the center of the western midden deposit and revealed a similar stratigraphic sequence to Boring 10, with the exception that both the recent marsh deposit and the intact shell midden were 10 in thick in this area. The midden extends approximately 60 ft along the bank here and 30 ft back from the bankline.

Upon completion of the auger testing the bankline was surface collected in units 240 ft long defined by the boring locations. One exception was the area between Borings 7 and 11, which was divided into two units each roughly 180 ft long. Table 6-23 presents the artifacts obtained in this collection by area, while Figures 6-64 and 6-65 illustrate selected examples of the material.

Aboriginal ceramics were present in substantial numbers throughout the site, but the highest frequencies occurred in the central portion, between Borings 3 and 7. A number of the sherds exhibit features which are worthy of note. For example, the sherd of Baytown Plain, *var. Little River* (see Figure 6-64, G) from between Boring 1 and Boring 3 has a "Tunica Rim," a treatment usually found on Bell Plain (Phillips 1970:Fig. 201). Several of the other Baytown Plain rim sherds display suspension holes (see Figure 6-64, C). Finally, as noted at a number of sites in this region, decorated types such as Anna Incised and Plaquemine Brushed (see Figures 6-65, F-G and B-E, respectively), which usually occur on Addis paste, are present here on a Baytown paste.

In general, the collection suggests that the site was first occupied during the transitional Coles Creek period, ca. A.D. 1000-1200, and that it continued to be utilized into the succeeding early Mississippi period, ca. A.D. 1200-1400. Markers for the transitional Coles Creek component include Coles Creek Incised, *var. Hardy* (see Figure 6-64, H-J); Harrison Bayou Incised, *var. Harrison Bayou* (see Figure 6-64, L); and Mazique Incised, *var. Manchac* (see Figure 6-64, M-S). The early Mississippi period, Plaquemine component includes the sherds of Anna Incised, *var. unspecified* and Plaquemine Brushed, *var. Plaquemine*, noted above. If not for the fact that they occur on Baytown paste, the sherds of Anna Incised would be classed as *var. Australia*. The single sherd of Mississippi Plain is probably associated with the early Mississippi period occupation rather than a later Mississippi period component.

A sample of *Rangia* shells from the western midden area was submitted to the Center for Applied Isotope Studies at the University of Georgia. The sample yielded an age of 770 ± 50 years B.P.: A.D. 1180 (UGa-5691), which is near the end of the transitional Coles Creek period.

Comments and Recommendations

Site 16 TR 56 is a *Rangia* shell midden associated with the natural levee of a Lafourche-Mississippi distributary now occupied by Bayou du Large. The site was occupied during the transitional Coles Creek and early Mississippi periods and has now been largely destroyed by bankline erosion. Two small areas of intact midden are present, and these may provide important information on the shift from Coles Creek to Plaquemine culture in this region. The site is therefore considered potentially eligible for the National Register of Historic Places.

CARRION CROW LAKE/CROCHET'S ISLAND (16 TR 66)

Location and Previous Description

This site is located in the marsh approximately 1600 ft north of Carencro (or Carrion Crow) Lake and is accessible by a small canal which leads to it from the lake. The site was originally recorded by McIntire in 1952 and described as a long shell ridge that appeared to be

Table 6-23. Ceramic Counts and Percentages for the Bayou du Large Site (16 TR 56).

AREA	CERAMICS	RIM	BODY	TOTAL
Boring 1- Boring 3	Avoyelles Punctated <i>var. latum</i>	0	1	1
	Baytown Plain <i>var. Little River</i>	1	0	1
	<i>var. unspecified</i>	4	45	49
	Coles Creek Incised <i>var. Hardy</i>	0	1	1
	French Fork Incised <i>var. unspecified</i>	0	1	1
	Mazique Incised <i>var. Manchac</i>	0	1	1
	Unclassified incised on Baytown paste	1	1	2
	Anna Incised <i>var. unspecified</i>	1	0	1
	Baytown Plain <i>var. unspecified</i>	13	58	71
Boring 3- Boring 5	Coles Creek Incised <i>var. Hardy</i>	0	2	2
	Mazique Incised <i>var. Manchac</i>	1	1	2
	Mississippi Plain <i>var. unspecified</i>	0	1	1
	Plaquemine Brushed <i>var. Plaquemine</i>	2	0	2
	Unclassified incised on Baytown paste	0	1	1
Boring 5- Boring 7	Anna Incised <i>var. unspecified</i>	1	0	1
	Baytown Plain <i>var. Little River</i>	0	1	1
	<i>var. unspecified</i>	10	67	77
	Coles Creek Incised <i>var. Hardy</i>	1	2	3
	Harrison Bayou Incised <i>var. Harrison Bayou</i>	0	1	1
	Mazique Incised <i>var. Manchac</i>	1	4	5
	Plaquemine Brushed <i>var. Plaquemine</i>	1	1	2
Boring 7- 180 ft. west	Baytown Plain <i>var. Little River</i>	1	1	2
	<i>var. unspecified</i>	2	32	34
	Coles Creek Incised <i>var. Hardy</i>	0	1	1
	Mazique Incised <i>var. Manchac</i>	2	1	3
	Plaquemine Brushed <i>var. Plaquemine</i>	2	0	2
180 ft. west of Boring 7- Boring 11	Baytown Plain <i>var. unspecified</i>	3	28	31
	Coles Creek Incised <i>var. unspecified</i>	1	0	1
	Mazique Incised <i>var. Manchac</i>	2	0	2
	Total	50	252	302

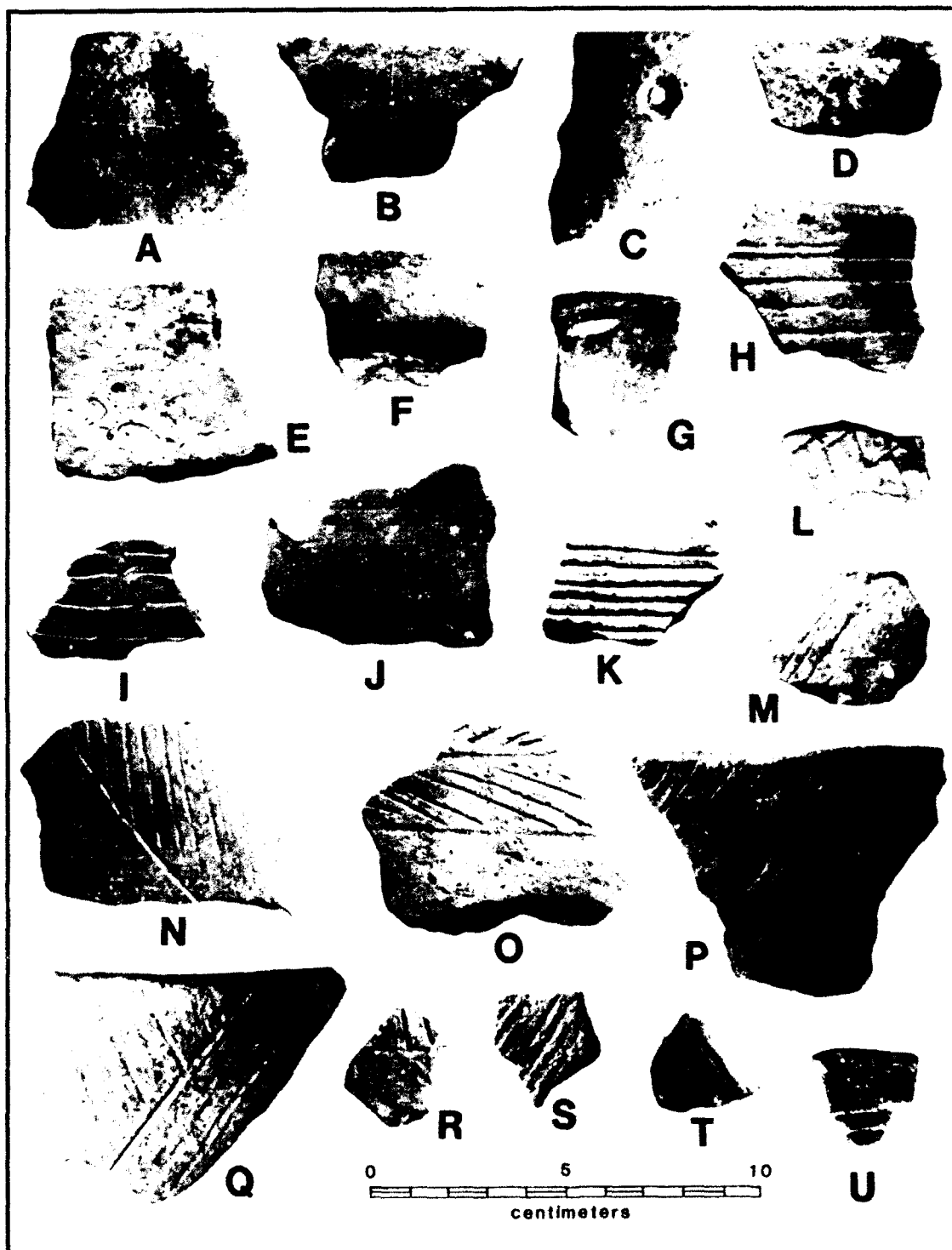


Figure 6-64. Late Coles Creek period ceramics from Bayou du Large (16TR56). A-F) Baytown Plain, var. *unspecified* (all but A and C from bowls, F is interior view); G) Baytown Plain, var. *Little River* (shallow bowl with Tunica rim model); H-J) Coles Creek Incised, var. *Hardy*; K) Coles Creek Incised, var. *unspecified*; L) Harrison Bayou Incised, var. *Harrison Bayou*; M-S) Mazique Incised, var. *Manchac*; T) French Fork Incised, var. *unspecified* (possibly var. *Iberville*); U) Unclassified Incised. (A-C, M, between CEI Borings 3 and 5; D-F, K, P, 180 to 360 ft beyond Boring 7; G, R-U, between Borings 1 and 3; H-J, L, N-O, between Borings 5 and 7; Q, surface near west midden.)

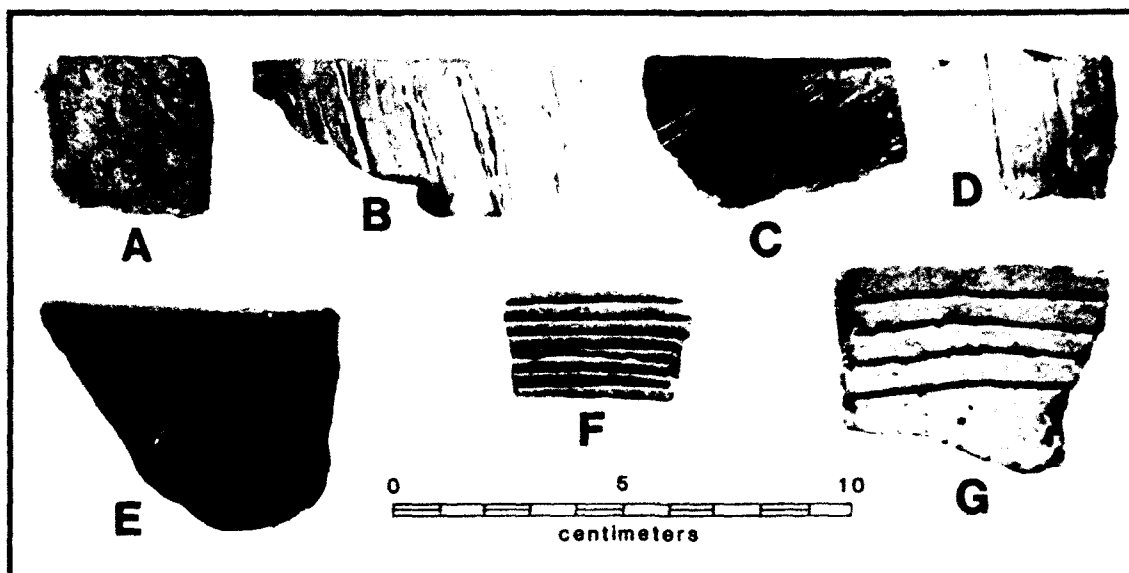


Figure 6-65. Additional late Coles Creek and Mississippi period ceramics from Bayou du Large (16 TR 56). A) Avoyelles Punctated, var. *Tatum*; B-E) Plaquemine Brushed, var. *Plaquemine*; F-G) Anna Incised, var. *unspecified*. (A, between CEI Borings 1 and 3; B, D, G, between Borings 5 and 7; C, E-F, between Borings 3 and 5.)

associated with an old stream channel (LDA site form). Later he recognized that it shared a number of features (e.g., large size, elongated shape, and sparse cultural material) with a series of sites in this area (16 TR 4, 16 TR 47, 16 TR 49, and 16 TR 77) and suggested that all of them might be based on relict lake beaches (McIntire 1958:73). McIntire further noted that, although some of these sites had been destroyed by shell dredging, 16 TR 66 was not disturbed because it contained a historic cemetery.

A small collection of ceramics was obtained from the site by McIntire and analyzed for his 1958 study (Pl. 13). His identifications are presented below:

Type	Percentage
Moundville Type	16.7
Fort Walton Type	33.3
Pontchartrain Check Stamped	33.3
French Fork Incised	16.7

Based on this analysis he placed the initial occupation of the site in the Troyville period (Pl. 5a) and noted that Coles Creek (Pl. 7b) and Plaquemine (Pl. 8b) components were also present. Phillips (1970:Fig. 446 and Fig. 447) later utilized McIntire's data and identified Coles Creek and Mississippi period occupations at the site. The latter he assigned to the Bayou Petre phase on the basis of the Moundville and Fort Walton types reported by McIntire. Phillips chose to ignore McIntire's Troyville component as it was apparently based on the presence of French Fork Incised, a type which persists well into the succeeding Coles Creek period. In his overview of sites in coastal Louisiana, Neuman (1977:23) agreed with Phillips' estimate of the initial occupation, but assigned the Mississippi period component to the Plaquemine culture.

estimate of the initial occupation, but assigned the Mississippi period component to the Plaquemine culture.

In 1985 the site was revisited by McIntire and Baumann during a survey for a proposed weir and two earthen dams (McIntire and Baumann 1985). Although the site lay approximately 250 ft from the nearest construction area, they excavated several shovel tests and a test pit on it and recovered an unknown amount of plain pottery (McIntire and Baumann 1985:8-9). Borings excavated at the site indicated that the shell deposit was at least 18 ft thick in some places and overlay what was identified as natural levee deposits at its southeast end.

Present Description

Site 16 TR 66 is recognizable today as a tree-covered ridge of *Rangia* shells that rises above the surrounding marsh (Figures 6-66 and 6-67). The exposed portion of the ridge is 550 ft long, a maximum of 100 ft wide, and its highest point is 5 ft above the marsh (Figure 6-68). It exhibits a slightly crescentic shape, with its convex side to the south. A small canal leads from Carencro Lake to the center of the site, and then bifurcates to run both east and west along its south side. The canal provides access to three camps which are located on the site. Only one of these, the westernmost, was inhabited at the time of the present investigation. The occupants, two old Cajun trappers, noted that the local name for the ridge was Crochet's Island, after one of its early Acadian settlers. They also remembered that the site was visited many years ago by a geologist from LSU (undoubtedly McIntire) who located a historic child's burial on it. Unfortunately, they could no longer point out the location of the grave, and the survey crew was unable to find any evidence of it.

Artifacts occurred in very low frequencies on the surface of the ridge, probably due in part to the limited amount of disturbance which has taken place on it. For this reason the usual collection procedure was modified somewhat. The site was divided into collection areas of roughly equal length, and the five easternmost areas were examined (see Figure 6-68 and Table 6-24). Area 2 yielded no artifacts, and Areas 1, 3, and 5 produced only small numbers of sherds of Baytown Plain. Area 4 also contained a few sherds of Baytown Plain, but in addition it yielded a sherd of Coles Creek Incised, *var. Stoner* (see Figure 6-69, A, below). This meager collection is of little use in assessing the occupational sequence of the site, but it does confirm that a late Baytown or early Coles Creek period component is present.

In an effort to obtain more information on the history of the site, McIntire's 1952 collection, now housed at the Museum of Geoscience at LSU, was reanalyzed (Table 6-25). Examples of selected ceramics from both the LSU and CEI collections are shown in Figure 6-69. Two components are represented, one that dates to the middle or late Coles Creek period (see Figure 6-69, B-F) and a second that dates to the late Mississippi period. The latter is based on only three sherds, but interestingly, all three are Mississippian rather than Plaquemine types. Absent are the Moundville and Fort Walton types identified by McIntire and used by Phillips to assign this component to the Bayou Petre phase. The single decorated type is Owens Punctated (see Figure 6-69, G), possibly indicating connections to the Mississippian group inhabiting Avery Island at that time (Brown and Lambert-Brown 1979).

After completing the surface collection, an attempt was made to determine the depth of the *Rangia* shell deposit at the site. First, an auger boring (No. 1) was excavated near the boundary between Areas 3 and 4 on the highest portion of the shell ridge (see Figure 6-68). This boring encountered 11 ft of *Rangia* shells and shell hash in a black (10YR 2/1) silt loam matrix, but did not reach the base of the deposit. It was terminated due to a lack of additional auger pipe. A second boring was placed on the edge of the exposed portion of the ridge at marsh level. This one encountered similar deposits, but again it was not possible to completely penetrate the shell. The borings indicate that the shell deposit is at least 16 ft thick, but they provide no information on the nature of the underlying sediments.



Figure 6-66. Carrion Crow Lake/Crochet's Island site (16 TR 66), as seen from the canal leading to it from Carencro Lake. View to the north. Date: 12/18/86.



Figure 6-67. View of the western end of the shell ridge at the Carrion Crow Lake/Crochet's Island site (16 TR 66). Looking to the west. Date: 12/18/86.

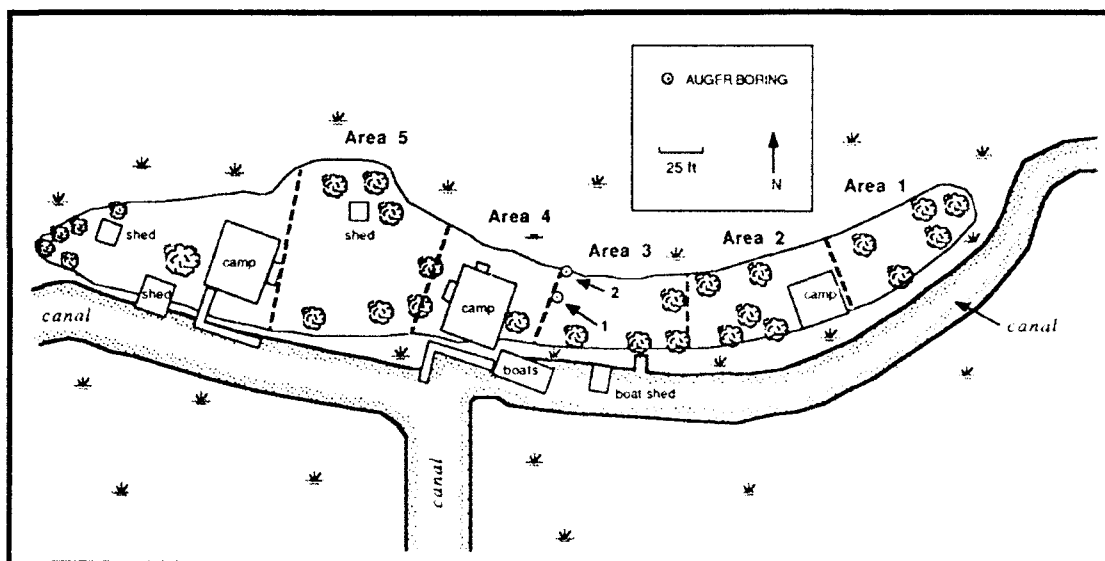


Figure 6-68. Tape and compass map of the Carrion Crow Lake/Crochet's Island site (16 TR 66), showing surface collection areas and the location of the two auger borings.

Table 6-24. Ceramic Counts and Percentages for the Carrion Crow Lake/Crochet's Island Site (16 TR 66).

AREA	CERAMICS	RIM	BODY	TOTAL
1	Baytown Plain <i>var. unspecified</i>	0	1	1
3	Baytown Plain <i>var. unspecified</i>	0	6	6
4	Baytown Plain <i>var. unspecified</i>	0	3	3
	Coles Creek Incised <i>var. Stoner</i>	1	0	1
5	Baytown Plain <i>var. unspecified</i>	0	1	1
Total		1	11	12

Comments and Recommendations

The Carrion Crow Lake/Crochet's Island site is one of a series of aboriginal occupations in this area associated with large, crescent-shaped *Rangia* shell deposits which have considerable depth. The nature of these deposits and their age are still unclear. The aboriginal occupations at this site date to the Coles Creek and late Mississippi periods. The site is largely intact and is considered potentially eligible for the National Register of Historic Places.

Table 6-25. Ceramic Counts and Percentages for the Carrion Crow Lake/Crochet's Island Site (16 TR 66), LSU Collections.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	0	44	44	83.0	--
Coles Creek Incised <i>var. Dozier</i>	1	0	1	1.9	14.3
French Fork Incised <i>var. Iberville</i>	0	2	2	3.8	28.6
Mississippi Plain <i>var. unspecified</i>	1	1	2	3.8	--
Owens Punctated <i>var. McIlhenny</i>	0	1	1	1.9	14.3
Pontchartrain Check Stamped <i>var. Pontchartrain</i>	0	3	3	5.7	42.8
<i>Total</i>	2	51	53	100.1	100.0

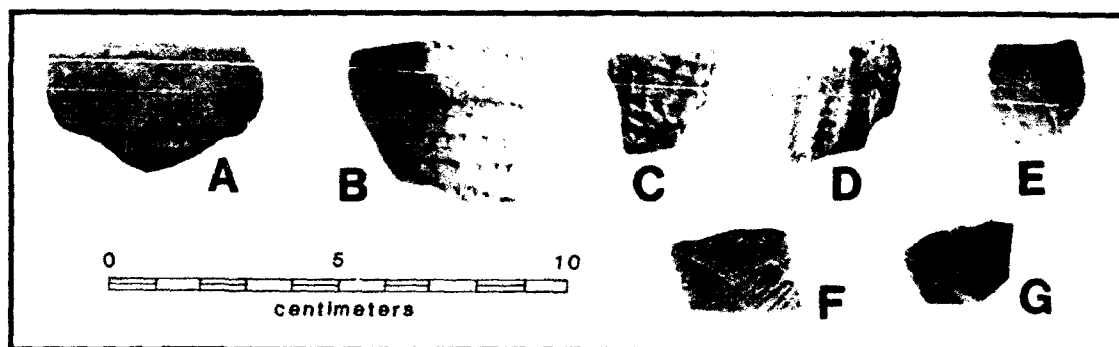


Figure 6-69. Aboriginal ceramics from Carrion Crow Lake/Crochet's Island (16 TR 66). A) Coles Creek Incised, *var. Stoner*; B) Coles Creek Incised, *var. Dozier* (with French Fork lug and two rows of linear punctations on lip); C-D) Pontchartrain Check Stamped, *var. Pontchartrain*; E-F) French Fork Incised, *var. Iberville*; G) Owens Punctated, *var. McIlhenny*. (A, CEI Area 4; all others from LSU collection.)

BAYOU BLACK (16 TR 78)

Location and Previous Description

This site was first recorded by William G. McIntire in August 1953, and described as a shell midden along the south bank of Bayou Black, about halfway between Mt. Pilgrim Church and Humphreys (LDA site form). It was described as "small" in size, but in a good state of preservation. Latitude and longitude coordinates were provided, and, based on them, the site was plotted on maps at the LDA within a cleared field about 0.2 mi south of the bayou in

Section 36, Township 17S, Range 16E. This is clearly in error, however, as the original site description specifically notes that the site is a shell midden at the edge of the bayou.

McIntire obtained a small collection from the site, and, although not listed in his ceramic table (McIntire 1958:Pl. 13), he acquired enough material to allow placement of the locale on his Troyville (Pl. 5) and Plaquemine (Pl. 8) site maps, and as a site with French Fork pottery (Pl. 6). Neuman (1977:23) also recorded that the site was a shell midden, but added the fact that it contained a Coles Creek period component.

In 1978, Altschul attempted to relocate the site during his sewerline survey. He carefully examined the area along Bayou Black between Humphreys and the Mt. Pilgrim Church, including the excavation of shovel tests at 100-m intervals along this entire stretch of Bayou Black (Altschul 1978:138). He reported that the area had been badly disturbed by road construction north of U.S. Hwy 90 and residential development south of the highway. No evidence of the site could be found. However, Altschul (1978:138) interviewed a local resident who reported that an earth mound had once existed in the fields adjacent to Bayou Black, about midway between Humphreys and Mt. Pilgrim Church. Unfortunately, it reportedly had been leveled. Thus, although it is clear that McIntire was referring to a shell midden along Bayou Black, which apparently had long since been destroyed, it is possible that the mound may have represented the village area associated with the midden, and that the circle on the LDA maps might actually represent the former mound location.

Finally, Weinstein and Gagliano (1985:Fig. 9) plotted the site on their Coles Creek period paleogeographical map, based on the information supplied by Neuman.

Present Description

Based on the above information, an attempt was made to examine both potential site areas: the shell midden by Bayou Black and the former mound in the field to the south. As reported by Altschul, the area along the bayou had been heavily impacted by previous construction, and no midden could be found. The possible location in the field was heavily overgrown, but searched and shovel tested, nevertheless. Unfortunately, no evidence of a site could be found there, either.

In an effort to offset the lack of survey success, the original McIntire collection (Catalogue No. 53-488) was relocated at the LSU Museum of Geoscience and analyzed (Table 6-26). Although relatively limited in size, the sample indicates an occupation that apparently ran the entire length of the Coles Creek period, as suggested by Neuman. Possibly representative of the early end of the period is the sherd of Mazique Incised, *var. Sweet Bay* (Figure 6-70, A), which is somewhat atypical in that the lines are fairly widely spaced. At the Morgan site (16 VM 9) on Pecan Island, Fuller and Fuller (1987) recovered a moderate-size collection of *Sweet Bay*, both from the submound midden beneath Mound 1 and from a circular structure atop the mound. Unfortunately, radiocarbon dates spanning the entire Coles Creek period came from both contexts (Fuller and Fuller 1987:Table 2), so it is impossible to determine the time elapsed between the earlier occupation and the construction of the mound. Nevertheless, the fact that *Sweet Bay* was present beneath the mound indicates that it could be early. Parenthetically, the sherd of *Sweet Bay* is almost certainly the sherd McIntire identified as French Fork, thus allowing for placement of the site on his French Fork distribution map (McIntire 1958:Pl. 6).

Another important sherd in the LSU collection is the possible example of Mazique Incised, *var. Manchac*. If it is *Manchac*, then a probable late Coles Creek or early Plaquemine component might be present. However, it could just as easily indicate a middle to late Coles Creek occupation, since it appears to be a bit better made than true *Manchac*. Lastly, the sherd

Table 6-26. Ceramic Counts and Percentages for the Bayou Black Site (16 TR 78), LSU Collections.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	4	37	41	93.2	--
Evansville Punctated <i>var. unspecified</i>	1	0	1	2.3	33.3
Mazique Incised <i>var. Manchac (?)</i>	0	1	1	2.3	33.3
<i>var. Sweet Bay</i>	0	1	1	2.3	33.3
Total	5	39	44	100.1	99.9

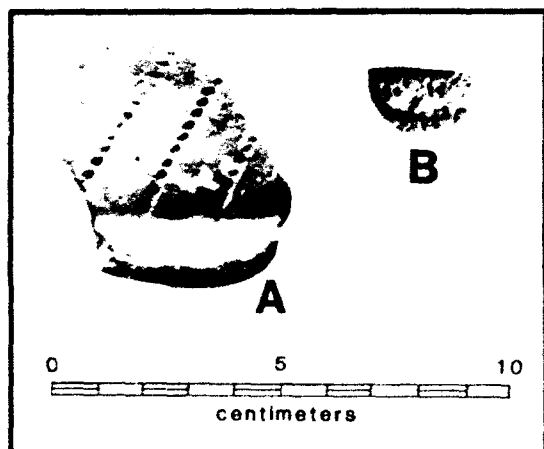


Figure 6-70.

Aboriginal ceramics from Bayou Black (16 TR 78). A) Mazique Incised, *var. Sweet Bay*; B) Evansville Punctated, *var. unspecified*. (Both from LSU collection.)

of Evansville Punctated (see Figure 6-70, B) fits into the general Coles Creek time frame without any problem.

Comments and Recommendations

Although neither the shell midden nor the former mound area possibly associated with the midden could be found, there is every reason to suspect that evidence of the latter, at least, will eventually turn up. Given the poor locational information supplied by McIntire for other sites in the region, it is possible that the circle on the LDA maps, and, thus, the area searched during the present study, is incorrect. Conversely, it could be argued that the CEI crew was at the former mound location, but poor visibility due to heavy vegetation cover forced the crew to miss the site.

Regardless of the above problems, it is clear, at least, that the shell midden from which McIntire obtained his collection probably was utilized during most of the Coles Creek period (ca. A.D. 700 to 1200). As such it may have served as a small extraction camp for residents of either the reported mound located somewhere nearby, or the more prominent Gibson site (16 TR 5) situated up Bayou Black to the west.

DEER ISLAND (16 TR 88/103)

Location and Previous Description

As noted previously, Deer Island first was described by James Cathcart and John Landreth in their respective journals of Cathcart's 1819 timber survey. Because their descriptions provide an indication of the original, undisturbed nature of the locale, they are repeated below. First Cathcart (Prichard et al. 1945:798-799):

... from Shell Island [Shell Island Point, 16 SMY 25] to the point, which we must pass (SW point of the marsh) to go to Deer Island, on which were a prodigious number of Pelicans, is S by W dist. 3 miles. At 2PM, the wind was WSW right in from the Gulf which made a considerable swell; the first points (Deer & Presidents points) ... going out of the Atchafalaya bears W by N & E by S of each other dist'ce 3 Miles, at the mouth of the river close along shore there is from 3 to 4 feet water; we kept along the point SE 1/2S & bore away into Deer creek [Round Bayou on modern maps] ... which divides Deer from Plumb Islands NE by N; it is bounded by grassy marsh on both sides, a crooked Bayou runs through it, about 100 yards from the 1st point, which we did not enter, supposing there was not water in it for our boat; the course kept winding from NE by N to North 1 1/4 miles enter'd another creek [Deer Island Pass] N'th 50 yards & then another [a ditch, according to Landreth], just the breadth of the boat, which runs W by S 250 yards where we landed on the Cane marsh close to the shore; the soil was rich alluvion, full of Deer tracks, much rooted up by them & Racoons; here an Owl was shot, who hail'd us on our arrival, although it was daylight, this I must allow was ungrateful, but I have received returns for favours confer'd; sentimentally as bad as death! from the Lords of the creation Man! & I had no agency in the murder of this emblem of wisdom, & would much rather it had lived.

We found a ridge of live oak on this Island 100 yards wide, & more ... than half a mile long, which contained about 100 trees, a few of which were 3 to 5 feet diam'r, but the Island is entirely surrounded by marsh, which would render the transportation of timber very difficult & expensive, even if a sufficient quantity existed to render it an object worthy of attention of government. On this Island no mark of the axe appears, it is in a perfect state of nature, its groth is wild cherry (*Cerasus virginiana*) ... honey locust (*Gleditchia triancanthos*) maple (*acer rubrum*) & live oak underwood, Canes, Briars, vines and small shrubs; common to all the Islands which we have visited, & which is already described; we likewise found wild onions or shallots, ... which has just commenced vegetation, & had not yet form'd bulbs, of which we pick'd a quantity an excellent anti-scorbutic, & no bad auxiliary to salt beef and biscuit-

Deeming the groth of this Island of little importance for naval purposes, [this conflicts with Landreth's account, see below], we ran out into the bay ...

Landreth (Newton 1985:75-76) reports the following:

from Shell Island [Shell Island Point, 16 SMY 25] South west three miles to the south westernmost point of Deer Island to the mouth of a Bayou (Round Bayou on modern maps) which divides Deer from Plumb Island the mouth of which Bayou is about forty yards wide into which Bayou we steer

North East by North half a mile in nine feet water. thence North by East half a mile to the mouth of a small Bayou [Deer Island Pass] into which we steer North about fifty yards to the mouth of a large ditch into which we steer West by South about two hundred yards to the East end of the High Land of Deer Island. Mr. Hutton and myself Examined and Surveyed the Timber Soil and situation of this Island. we concluded there was on this little Island one hundred good Live Oak Trees . . . of the Second class from three to Six feet in Diameter with a considerable growth of young Live Oak with a variety of other Timber The Situation is beautifull ten feet high above the marsh nothing to obstruct the view but low marsh from the extensive Atchafalaya Bay and almost Boundless Gulph of Mexico The Soil a rich mixture of almost dissolved Shells with rich black mould the Ear is here charmed with the united notes of the Mocking and Red Bird but sometimes disturbed with the dolefull Sound of the Owl which abounds here. the Eye is delighted with the Brilliant varieties of Blossoms produced from the different plumb Trees wild cherry and flowering Shrubs everywhere interspersed in the woods here. I am told that there is a great many Deer on this Island altho I saw none but from the prints of their feet in the marsh surrounding the high Land the[y] must be very numerous. This Island taken abstractively is certainly a delightfull spot ---

Landreth then filed a claim for the U.S. government, acquiring the oaks for naval construction. His claim is reproduced in Newton's (1985:77) account of the journal, and covered about 25 acres of high ground, measuring approximately 106 poles (1,749 ft) long by 41 poles (676.5 ft) wide. Thus, Landreth's claim shows that the island was about 0.33 mi in length.

This is somewhat less than Cathcart's estimate of more than half a mile in length. Nevertheless, when these figures are coupled with the distance estimates travelled by the Cathcart party up Round Bayou, it is apparent that a tremendous amount of erosion has occurred along the Lower Atchafalaya River, and that what remains of Deer Island today is probably only slightly more than one third of its original length. However, not all of the damage to Deer Island has been by natural erosion.

Sometime during the 1930s, the Huth Construction Company acquired the rights to Deer Island and dug two approach canals to mine the site for shell. One canal moved eastward from the Lower Atchafalaya River and removed approximately 0.2 mi of site before island residents were able to halt the destruction by reporting that a historic cemetery occupied part of the eastern end of the site (Hilton Rink, personal communication 1987). Huth then began another approach canal, heading west from the junction of Round Bayou and Deer Island Bayou, and again was stopped at the very edge of the island before any shell could be removed. As will be seen below, this dredging left an island remnant only about 590 ft long, a far cry from the 0.33-mi-long island reported by Landreth.

It was well over one hundred years following the Cathcart and Landreth expedition, and about 10 years following the Huth dredging, that Cathcart's journal was edited and published by Walter Prichard, Fred B. Kniffen, and Clair A. Brown (Prichard et al. 1945). With this came the realization by interested scholars that many archeological sites discussed by Cathcart could be relocated. Thus, in August 1952, McIntire, Kniffen, Morgan, and Warren filed a site form on Deer Island, based on Cathcart's description (LDA site form). These investigators attempted to visit the locale, but could not reach the site as all of the approach channels were blocked. Nevertheless, a small deposit of wave-washed shell was noted along the bank of the Lower Atchafalaya River at the western end of the initial Huth approach canal.

This "beach deposit" was reported by McIntire (1958:Pl. 2) on his general site-distribution map.

In 1976, Neuman and Servello (1976:65-66) briefly discussed Deer Island in their survey of the Atchafalaya Basin. Although they offer a description of the locale, it seems likely that they did not visit it, but instead based their description on the earlier site form by McIntire et al. They note that the site consisted of a shell midden which extended along the Atchafalaya River for 0.5 mi, was 65 ft wide, and contained an historic cemetery (Neuman and Servello 1976:66). This, plus the fact that they assigned the site number "16 SMY 34," clearly indicates confusion and suggests that they could not have been to the locale. They also note that Cathcart described a nineteenth-century community then present on the island. As just seen, this was not the case – the island was uninhabited.

The next attempt to reach Deer Island was by members of USL's Lower Atchafalaya survey. They, however, also failed in their endeavor as access was denied by the Continental Land and Fur Company (Gibson 1978b:178). Nevertheless, Gibson (1978b:178-179) provided an abbreviated discussion of the locale, noting that the site was an elevated, oak-covered knoll that supported at least one modern cabin. He also hypothesized that the canals leading to the site had impacted it to some unknown degree.

The USL survey team did, however, revisit the wave-washed beach deposit along the Lower Atchafalaya River at the mouth of Huth's western approach canal. They considered it a different site from Deer Island and it was assigned site number 16 TR 103 and labeled Deer Island Point (LDA site form; Gibson 1978b:180). Gibson (1978b:180) was unsure whether this deposit actually was a site, or simply shell transported to the location to close off the Huth canal. It is clear now, however, that 16 TR 103 represents the remains of the western portion of Deer Island and the overall site has been assigned site number 16 TR 88/103. Midden from the site probably became mixed in spoil deposits along the banks of the canal, and these deposits have been eroded by the Lower Atchafalaya River forming the shell beach along the river's bank. It is interesting to note that Gibson (1978b:Table 36) found three prehistoric sherds at 16 TR 103 (one each of Baytown Plain, French Fork Incised, *var. unspecified*, and Coles Creek Incised, *var. Chase*), and that these, in actuality, represent the first glimpse of material from Deer Island.

Deer Island is somewhat of a puzzle in regard to the landform with which it may be associated. Smith et al. (1986:Pl. 46) identify Round Bayou and Deer Island Pass as parts of a single Teche distributary channel, but do not show a channel in the location of the site. Nevertheless, a crevasse off of the Deer Island Pass distributary leads to the east about 0.3 mi north of Deer Island Bayou, and passes by a large dredged site located about 0.7 mi northeast of the northeastern tip of the Deer Island site. This previously unrecorded site was completely removed by the Alfred Smith Construction Company in the 1930s (Hilton Rink, personal communication 1987). It may be that both this site and Deer Island are associated with the same natural levee, or it may be that both sites developed atop relict beach ridges, such as those near Bayou Penchant farther to the east. If the latter is the case, however, then it seems likely that Deer Island and the nearby dredged site are not part of the same beach system, but another, smaller system not yet fully explored. It was hoped that augering at Deer Island would help clarify the situation.

Present Description

The present CFI field crew had considerably more luck at Deer Island than any of its predecessors. Not only were the bayous and canals all open, but the crew was met on arrival at the site by Hilton Rink and his family who live on the island. Mr. Rink was extremely

hospitable, giving the crew a guided tour of the site, relating history of the area, and leading the crew to the nearby dredged site discussed above.

The remnant of Deer Island today is a long, narrow shell ridge that widens slightly toward its western end (Figure 6-71). The ridge measures about 590 ft long, 75 to 100 ft wide, and is about 8 to 10 ft high at its highest point. Three houses are present on the ridge, along with several equipment sheds and boat docks (Figure 6-72). The northern tip of the site presently supports a very young peach orchard, with trees no more than 2 ft tall (Figure 6-73). The southern end contains the historic cemetery area located between Rink's house and an empty home at the extreme south end. Today, only three graves are marked, but reportedly about 50 people are buried in the cemetery area (Hilton Rink, personal communication 1987). The last person interred in the cemetery was Rink's grandmother, Henrietta Lacoste, whose headstone bears a 1936 date. As noted, it was the presence of this cemetery which forced the Huth Construction Company to halt its shell-mining operations.

In order to gather data on potential occupation differences along the ridge, the site was sectioned into 50-ft-long collecting units, and all artifacts visible within each unit were picked up. Unfortunately, many of the units produced only one or two sherds, and several produced none at all. Only in the northern area, around the peach orchard, where the ground was clear, was a reasonable quantity of material obtained. For that reason, the entire collection is combined for presentation in Table 6-27, and selected sherds are shown in Figure 6-74. Although small, the ceramic collection reveals a single-component Plaquemine occupation, probably dating between A.D. 1200 and 1500. Of note, is the sherd of Medora Incised, var. *Medora* (see Figure 6-74, B), a relatively rare variety, yet one of the most diagnostic of all Plaquemine culture types and varieties. The unclassified incised sherd also helps bolster the Plaquemine component, as it is either Mazique Incised, var. *Manchac* or an unspecified variety of Fatherland Incised. The sherd is too small and weathered to tell for sure.

Lastly, following the mapping and surface collection programs, a single auger boring was drilled at the edge of the site just south of Huth's eastern approach canal (see Figure 6-27). The boring revealed the following: 0 to -0.5 ft, very dark brown (10YR 2/2) peat; -0.5 to -1.1 ft, dark gray (5Y 4/1) clay with some organic remains; -1.1 to -1.8 ft, very dark brown (10YR 2/2) peat; -1.8 to -2.1 ft, very dark brown (10YR 2/2) peat with mixed *Rangia* shell; -2.1 to -16 ft, very dark gray (2.5Y 3/0) silty clay with *Rangia* shell. The boring was terminated at -16 ft, although it had not completely penetrated the lower shell deposit. Basically, the first and third strata represent marsh deposits, while the second stratum appears to be spoil from the Huth canal. The lower, fourth stratum is the shell ridge which forms the island. Considering that the island juts at least 8 ft above the surrounding marsh, and that the boring penetrated at least 16 ft of shell below the marsh, it seems safe to say that the ridge is over 24 ft thick. Unfortunately, as no natural levee was encountered, it is not possible to determine whether the ridge is resting on an ancient stream bank or a relict beach ridge. Similarly, if the latter case is true, it is not known how much of the ridge is natural shell beach and how much is cultural deposit. Based on data from the Lake Penchant site (16 TR 4), however, it would seem that much, if not all, of the beach ridge sites actually are culturally deposited shell middens.

Comments and Recommendations

Although the Deer Island remnant today represents only about one-third or less of its original length, it still is a large, intact shell midden. For that reason, plus the fact that it is historically significant, it is considered eligible for the National Register.

Given the site's former size and the presence of a Plaquemine ceramic assemblage on its eastern remnant and a Coles Creek assemblage at its western end (Gibson's 16 TR 103), it



Figure 6-71.

Sketch map of the remaining portion of the Deer Island site (16 TR 88/103), showing modern structures, historic graves, and the location of CEI's auger boring. (Dashed lines are contour estimates only, used to give a general impression of elevation.)



Figure 6-72. Deer Island (16 TR 88/103) as viewed from the eastern approach canal. Looking to the northwest. Date: 4/3/87.



Figure 6-73. Atop Deer Island (16 TR 88/103), looking southwest from the peach orchard at the north end of the shell ridge. Date: 4/3/87.

Table 6-27. Ceramic Counts and Percentages for the Deer Island Site (16 TR 88/103), Combined Surface Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var unspecified</i>	6	47	53	94.6	--
Medora Incised <i>var Medora</i>	0	1	1	1.8	33.3
Plaquemine Brushed <i>var Plaquemine</i>	0	1	1	1.8	33.3
Unclassified incised on Baytown paste	0	1	1	1.8	33.3
Total	6	50	56	100.0	99.9

may be possible to hypothesize a relatively large village or hamlet during the Coles Creek and early to middle Mississippi periods (ca. A.D. 700 to 1500). Whether any earlier components are present is unknown, but, given the thickness of the shell deposit, this possibility seems highly likely.

BRADY CANAL (16 TR 112)

Location and Previous Description

This well-preserved *Rangia* shell midden is located in the marsh about 1,800 ft west-northwest of the junction of Bayou Penchant and Brady Canal. It is one of several shell

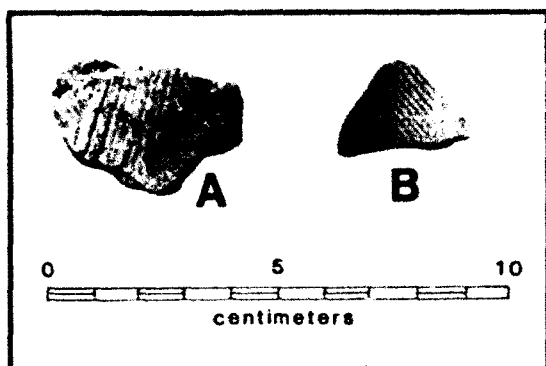


Figure 6-74.

Aboriginal ceramics from Deer Island (16 TR 88/103). A) Plaquemine Brushed, var. *Plaquemine*; B) Medora Incised, var. *Medora*. (Both from CEI collection.)

middens situated atop what is believed to be an ancient beach ridge (Smith et al. 1986:Pl. 49; and see discussion of 16 TR 4 and Figure 6-5). It was reported in February 1978 by L. W. Patterson who estimated its size as 200 ft in diameter and 8 to 10 ft in height (IDA site form). No artifacts were found, but turtle shell and other animal bones were noted.

Present Description

The Brady Canal site is indeed a wonderfully preserved *Rangia* midden jutting up out of the surrounding marsh. A compass and tape map (Figure 6-75) made during the present study shows the actual above-marsh dimensions to be about 290 ft long by 90 ft wide at its widest point. The highest portion of the site, which is closest to, and parallels, the western edge of the midden, is about 2.5 to 3 ft in elevation. The entire site is covered with a fine growth of oaks, hackberries, palmettos, and lesser understory vegetation (Figure 6-76).

As with the previous investigation, no artifacts were located, despite a rather careful search of exposed midden, animal burrows, and several large tree falls. Only one probable fish bone was collected. There is little doubt, however, that this locale is a site. The *Rangia* shells are all of relatively large size, showing a possible selection preference on the part of the Indians, while several fragments of burned *Rangia* point to probable cooking or boiling fires used to open the clams.

In an effort to determine subsurface site dimensions, auger probes were placed down around the margins of the midden in those locations which could be reached by boat. These showed that the shell does not extend more than 5 or 10 ft west of the midden, but does continue about 30 ft beyond the north, south, and eastern margins of the ridge. This would seem to indicate that a relatively steep drop-off is present along the western edge of the site, while a more gently sloping descent occurs to the east. This mirrors the above-surface topography, as well, as can be seen by the estimated contour lines in Figure 6-75. This suggests the possibility of a relict channel or waterbody (possibly a now-filled lake) having once been located adjacent to the western site edge.

Lastly, one auger boring was drilled through the southern portion of the site at the N20 point (see Figure 6-75). The upper 0.5 ft produced a very dark brown (10YR 2/2) humus, while the next 11.5 ft penetrated solid *Rangia* shell in a very dark brown (10YR 2/2) silty clay matrix. The boring was terminated at -12 ft, as the shell no longer could be drilled. How much deeper the shell might go cannot now be determined. Given the 12 ft depth, however, coupled with the approximate 3-ft height, it may be stated that the shell is at least 15 ft thick.

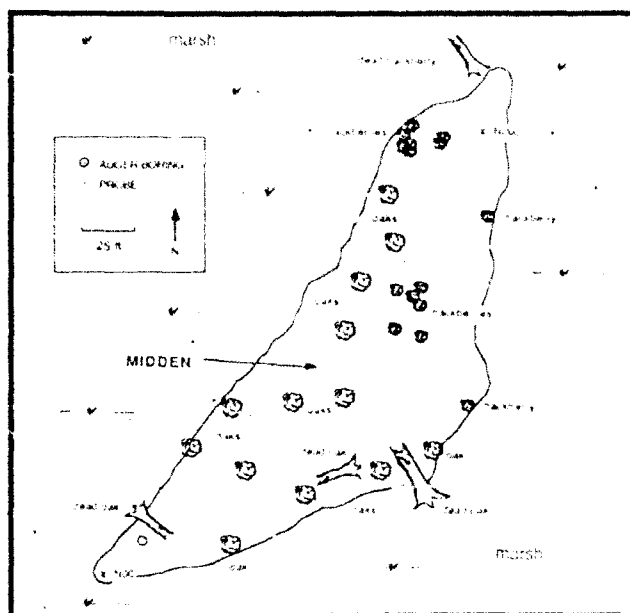


Figure 6-75.

Compass and tape map of the Brady Canal site (16 TR 112), showing extent of above-marsh midden, major trees present on the site, and locations of probes and the auger boring. (Dashed lines are contour estimates only, used to give a general impression of elevation.)

Comments and Recommendations

Little more can be added concerning this intact midden. If Smith et al. (1986) are correct, then the site is resting on a buried beach ridge, but how much is beach and how much is site is something which needs to be determined. There is no doubt that the Brady Canal site is eligible for the National Register. Both as an intact, thick shell midden, and as a possible locus for unravelling the beach-ridge story, it offers the potential for numerous future studies.

FAHRENHEIT KNOLL (16 TR 193)

Location and Previous Description

This relatively modest site originally was located in June 1975 by a survey crew from Gulf South Research Institute (GSRI) during examination of a proposed pipeline route through the area (GSRI 1975:29). It is described as a scatter of both prehistoric and historic artifacts covering an area of about 100 by 200 ft (GSRI 1975:29). It is on a low knoll, as its name implies, along a prominent crevasse natural levee leading from Bayou Black southward into the backswamp. The knoll is at the edge of the backswamp within the northern portion of Section 56, about 0.4 mi southwest of St. Anthony's Church, the latter located on U.S. Hwy 90. A field road leading south from U.S. 90 passes just to the east of the knoll and continues on down the crevasse natural levees. The crevasse has been identified as an initial Teche-age feature, having emanated from the Teche-Mississippi, later to have been reoccupied by waters from the Lafourche system (Smith et al. 1986:Pl. 44). According to Smith et al., the crevasse continued southward eventually merging with the natural levees of the Waterproof Point crevasse. The GSRI (1975:29) study notes that two "unidentifiable clay-tempered sherds, clear glass, ironstone, and field brick fragments were collected."

Present Description

The CEI survey crew visited the site location described by GSRI, but was only able to find a few scattered pieces of brick near the farm road adjacent to the site. Collecting conditions were less than ideal, however, as the field was wet and muddy due to heavy rain.



Figure 6-76. Tree-covered shell ridge at the Brady Canal site (16 TR 112). Looking to the east. Date: 3/31/87.

To offset the lack of success in relocating the site, the original GSRI collection was examined at the LSU Museum of Geoscience. Unfortunately, as the GSRI survey noted, only two body sherds of Baytown Plain, *var. unspecified* comprised the aboriginal assemblage.

Comments and Recommendations

There is little else to add regarding this site. It obviously represents the remains of a small prehistoric hamlet or camp which later may have been reoccupied by a late-nineteenth- or early-twentieth-century tenant house. The knoll offers a slightly higher elevation than the surrounding terrain, making it an ideal location for both prehistoric and historic settlement. The site may be eligible for the National Register if subsurface features are present, but only additional research will clarify that possibility.

STARLING BERGERON (16 TR 194)

Location and Previous Description

This is another site discovered by the GSRI survey crew while searching the proposed pipeline route noted earlier. It was found on the same day as 16 TR 193, and reportedly occupied a "small alluvial point on the backslope of the natural levee of Bayou Black" (GSRI 1975:29). This "point" actually is a slightly higher area along a crevasse leading from Bayou Black into the backswamp to the southwest. It is situated about 0.8 mi northwest of St. Andrews Church and about 0.35 mi due south of U.S. Hwy 90. The crevasse is identified by Smith et al. (1986:Pl. 44) as a Lafourche-age channel.

GSRI (1975:29) does not provide any data on site dimensions, but does note that four prehistoric, clay-tempered sherds were collected, two of which "retain vestiges of red slip."

Present Description

As with the previous site, the current survey was unable to relocate 16 TR 194 in the location indicated, despite an intensive search of the area. Given the conditions at the time of the revisit, wet and muddy with poor ground visibility, along with the fact that very little material was found originally, it is entirely possible that the site simply was missed. At this time, therefore, there is little else to add concerning the site itself.

However, as before, the original GSRI collection was relocated at the LSU Museum of Geoscience and reanalyzed. Unfortunately, it is of little value, consisting only of four body sherds of Baytown Plain, *var. unspecified*. The two sherds identified by GSRI as red slipped, were nothing more than highly oxidized examples of Baytown Plain.

Comments and Recommendations

There is little else to add at this point. Comments presented for 16 TR 193 pertain to this site, as well.

WATERPROOF POINT FIELD (16 TR 215)

Location and Previous Description

This site originally was discovered by a survey crew from GSRI during examination of a proposed pipeline right-of-way through the area (GSRI 1975:27-29). It is situated in a cane field along the eastern edge of Waterproof Point about 0.9 mi due south of St. Luke's Church on Bayou Black, and about 0.8 mi down the Houma Fluid Services road from U.S. Hwy 90.

When originally found, GSRI identified the site as 16 TR "A," but, because of the apparent proximity of the locale to the Bazet/McIntire location of 16 TR 73, the two were assumed to be one and the same. For a while, therefore, the locale was identified as 16 TR 73. Once the actual situation regarding the location of 16 TR 73 was understood, as discussed later in the present study, GSRI's site was assigned a new survey number--16 TR 215.

GSRI noted that the site covered an area about 200 ft wide by 300 ft long and was situated on an "alluvial ridge" extending southward from Bayou Black (GSRI 1975:27). This ridge is the Waterproof Point distributary natural levees. GSRI also obtained a small sample of prehistoric ceramics from the site. All reportedly were "clay tempered" and included two which were incised, three that were red slipped, and six or seven that were plain (GSRI 1975:29).

Present Description

The site currently matches the description provided initially by GSRI, as artifacts were found scattered over the field for approximately the same dimensions previously noted (Figures 6-77 and 6-78). In order to gain a better idea of the subsurface condition of the site, a series of 23 shovel holes was excavated at 20 ft intervals along the cardinal directions and emanating from the assumed center of the locale (see Figure 6-77). Near the north end of the northern line of holes the ditches between the cane rows were too wet to allow testing. This factor is somewhat academic, however, as none of the holes produced any evidence of cultural remains. Apparently, all of the midden has become incorporated in the current plow zone.

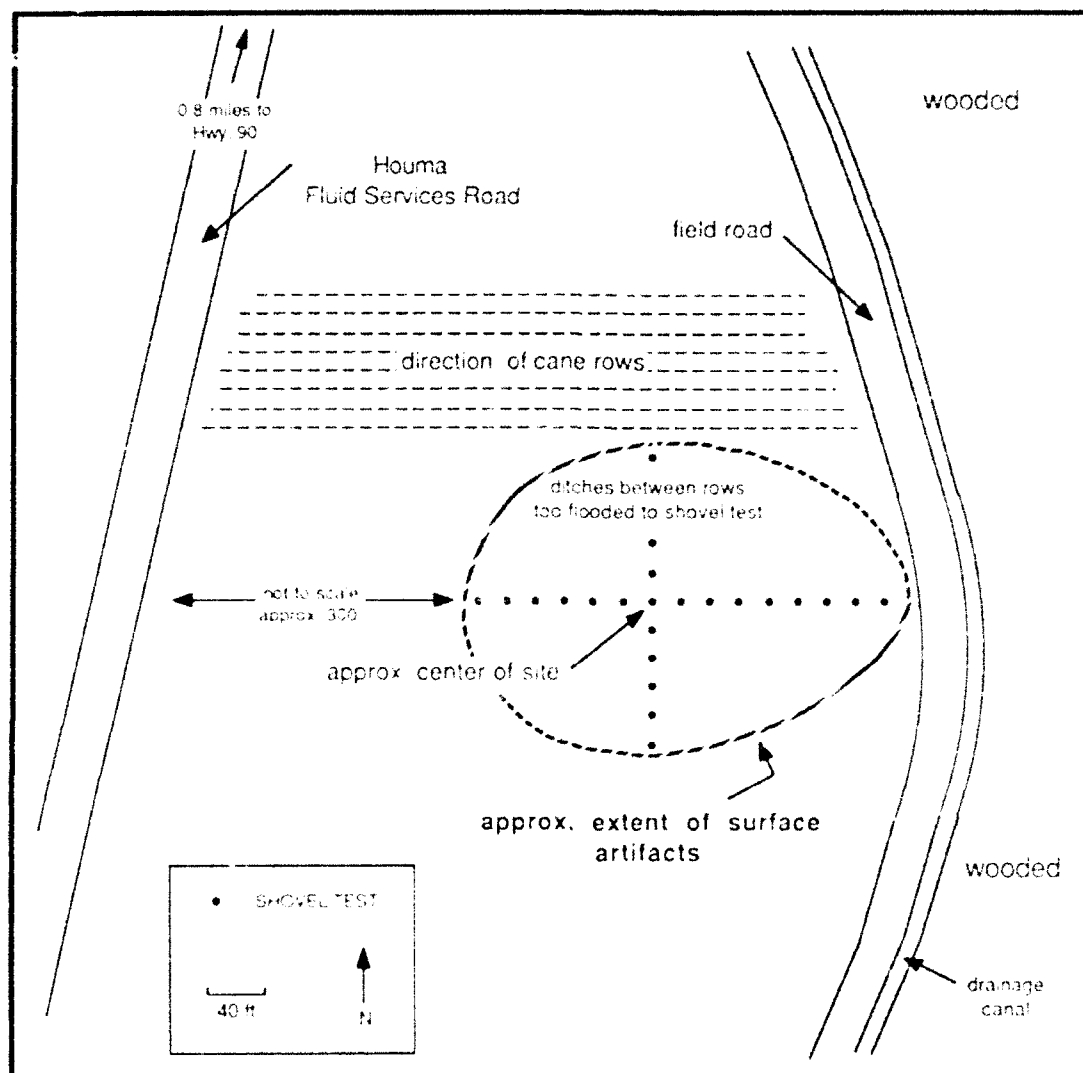


Figure 6-77. Sketch map of the Waterproof Point Field site (16 TR 215), showing approximate extent of the surface sherd scatter and location of shovel tests.

While examining the site during the present survey, a very small collection of aboriginal sherds was made. Because of its small size it was not tied to specific units along the shovel test transects, but rather represents a search of the entire site area.

Additionally, the GSRI collection (no catalogue number) was relocated at the LSU Museum of Geoscience under the term "16 TR A," and was reanalyzed for the present study. As the CEI collection is in keeping with that made by GSRI, the two are combined for presentation in Table 6-28.

The combined collections, though limited in size, indicate an apparent Coles Creek period occupation which may be right on the line between the early and middle portions of the period. Another possibility, of course, is that separate early and middle Coles Creek



Figure 6-78. Location of prehistoric artifact scatter at the Waterproof Point Field site (16 TR 215). Edge of backswamp is in the trees to the right. View to the north. Date: 3-26-87.

components are present, the former marked by the sherd of *Coles Creek* and the latter by the sherd of *Kings Point*. The *unspecified* sherd of *Coles Creek Incised* may also be a part of this latter component as it appears to be a highly eroded specimen of either *Greenhouse* or *Blakely*. Lastly, it should be noted that the three sherds identified by GSRI as red slipped were not, in fact, slipped or filmed, but simply were oxidized examples of Baytown Plain.

Comments and Recommendations

Waterproof Point Field probably functioned as a small hamlet during the *Coles Creek* period. Based on the data on hand, it may have been occupied during early and middle *Coles Creek* times (ca. A.D. 700 to 1000), or it could represent a single occupation which occurred at the time early *Coles Creek* was becoming middle *Coles Creek* (ca. A.D. 800 to 900).

As noted previously, the site may have formed the earlier portion of the Waterproof Point occupation sequence. Site 16 TR 213, located only 0.6 mi to the south, was occupied from late *Coles Creek* through late *Mississippi* times, and probably represents the later portion of the sequence.

Although no subsurface remains were found at the locale, and the combined collections of both CEI and GSRI amount to only 20 aboriginal sherds, there is the possibility that subplow-zone features, such as post holes and trash pits, could exist and provide useful information on *Coles Creek* settlement. For that reason the site should be considered potentially eligible for the National Register.

Table 6-28. Ceramic Counts and Percentages for the Waterproof Point Field Site (16 TR 215), GSRI and CEI Collections.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain var <i>unspecified</i>	3	13	16	80.0	—
Coles Creek Incised var <i>Coles Creek</i>	0	1	1	5.0	25.0
var <i>unspecified</i>	0	1	1	5.0	25.0
Marique Incised var <i>Kings Point</i>	1	0	1	5.0	25.0
Unclassified incised on Baytown paste	0	1	1	5.0	25.0
<i>Total</i>	4	16	20	100.0	100.0

CHAPTER 7

ADDITIONAL SITES AND COLLECTION REVIEW OF THE TERREBONNE MARSH STUDY AREA

Introduction

Data and site descriptions in this chapter came from two different sources. First, were those sites which were found while either the survey or site-assessment crew was travelling to or from a specific survey unit or site. Since these sites were not found during the actual sample survey, they could not be included in that aspect of the study. However, several provide highly important information that is critical to the paleogeographical interpretation to be presented next, and for that reason it is necessary to include them within the report.

The second source of data came from a review of previous collections obtained from sites in the study area. This, too, was critical to the paleogeographical interpretation, and, as will be seen, much of the information on site components supplied by past investigations can now be modified to some degree.

Additional Sites

Six sites not located along one of the survey transects or canal units were found during the course of the fieldwork. While the information on some is scanty, two, in particular, are highly important. These are the Bois d'Arc #1 (16 TR 211) and Bois d'Arc #2 (16 TR 212) sites, each with a Poverty Point period component, the earliest of all components located during the present study. As will be seen, their presence required new interpretations on the ages and derivation of several of the landform features located within the study area.

Site descriptions are provided below. It should be remembered, however, that these locales were not part of either the sample survey or site-assessment aspects of the study, and, therefore, were not subjected to as detailed recording and assessment procedures as was typically the case at other sites in the region.

FREY'S MAUVAIS BOIS (16 TR 205)

Location and Description

This relatively thin and narrow shell midden is situated on the east side of Bayou Mauvais Bois, about 0.35 mi west-southwest of the junction of the bayou and Peoples Canal. The site consists of both *Rangia* and oyster shells which rest atop the Mauvais Bois natural levee and measure about 200 ft long by about 30 ft wide. The deposit is relatively thin, however, as several shovel holes placed into the midden encountered natural levee material at depths of between only 6 and 8 in. No artifacts were found. As the site was not on a survey transect, no sketch map was made and no additional research was conducted.

Comments and Recommendations

There is little more to add concerning this locale. It most likely represents a shellfish collecting station for people utilizing the natural levees of Bayou Mauvais Bois. Considering the apparent late Coles Creek age for site 16 TR 192, it may be possible to suggest a similar component for 16 TR 205. Obviously, only additional testing will help clarify the situation. Similarly, such testing will be needed to determine whether or not the site is eligible for the National Register.

VOSS CANAL (16 TR 206)

Location and Description

This prehistoric site is located along Carencro Bayou approximately 600 ft west of its junction with Voss Canal (Figure 7-1). The geomorphic setting of the site is somewhat complicated by the fact that two relict distributary channels intersect in this area. One of the channels trends north-northeast/south-southwest and is defined by a line of dead oak trees.

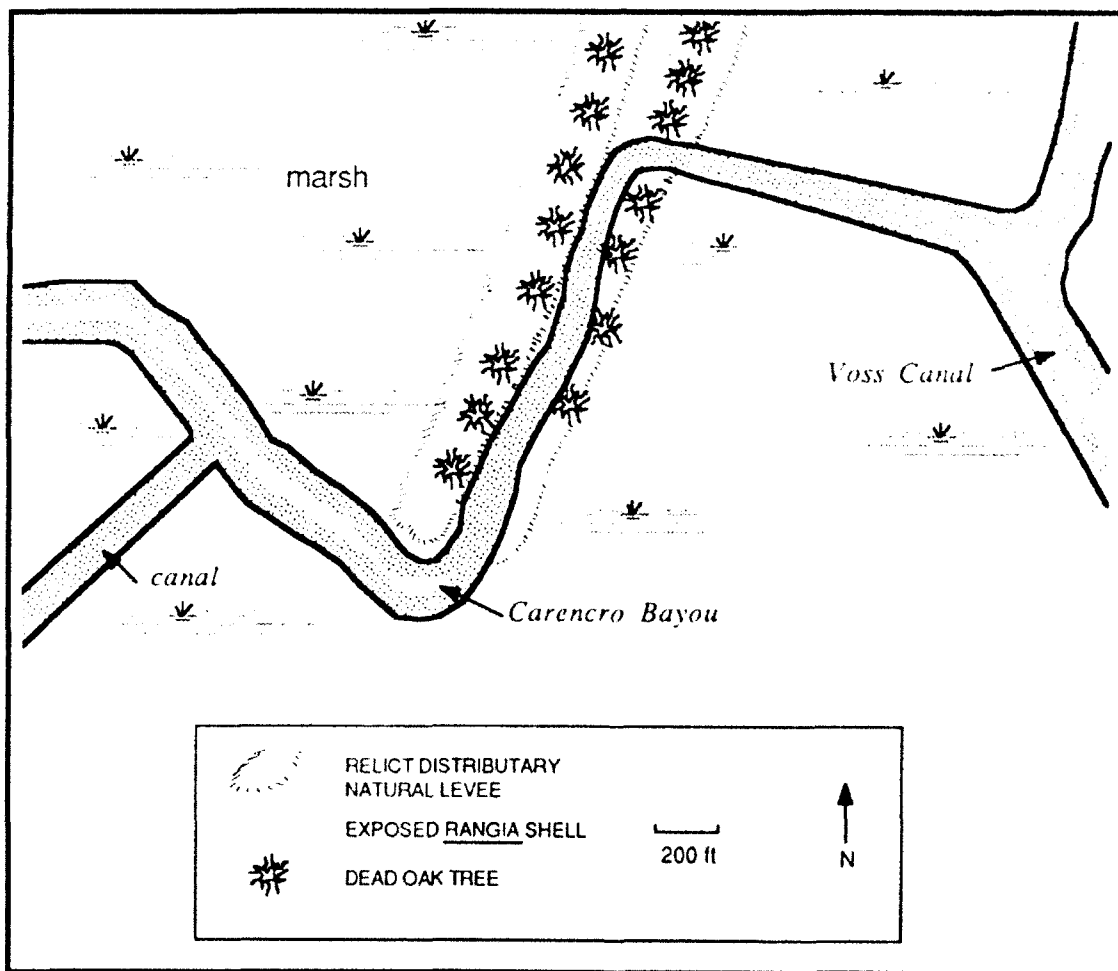


Figure 7-1. Sketch map of the Voss Canal site (16 TR 206), showing extent of scattered *Rangia* shell and the relict distributary natural levee.

Smith et al. (1986:Pl. 48) suggest that this channel was associated with the Teche delta. The second distributary channel is now occupied by Carencro Bayou and, according to Smith et al. (ibid), is associated with the later Lafourche delta. The archeological remains, including *Rangia* shells and occasional artifacts, extend for approximately 2000 ft along the bayou and continue beyond the natural levees of the Teche distributary channel, suggesting that they are related to the later channel. However, it is possible that erosion or dredging of the bayou have altered their original distribution. Subsurface testing, along both of the relict distributary channels would probably resolve this question.

The artifacts collected during the present project all came from the *Rangia* scatter along the west side of the bayou. They include three sherds of Baytown Plain, *var. unspecified*, four sherds of Mississippi Plain, *var. unspecified*, and one sherd of Addis Plain, *var. unspecified*. The sherd of Addis Plain is similar to the *Greenville* variety, but contains slightly more shell. Although the collection is small it indicates that a Mississippi period occupation is present at the site. The sherds of Baytown Plain may be related to an earlier component, but, as noted elsewhere in this report, Mississippi period types such as Leland Incised and Maddox Engraved often occur on a Baytown paste in this region.

Comments and Recommendations

The Voss Canal site is a Mississippi period occupation located at the intersection of two distributary channels that may be of widely differing ages. Subsurface testing has not been conducted at the site, but intact deposits may be present along one or both of the distributary channels.

DE CADE/TURTLE JUNCTION (16 TR 210)

Location and Description

This easily recognizable site is somewhat of an enigma in that it had not been recorded prior to the present survey. At first it was thought that this might be site 16 TR 31; however, the description of the latter's location and condition (only about 25 ft long) indicates that such cannot be the case. Rather, it could only represent a new site.

The site itself consists of both intact and wave-washed portions of what was once a fairly large *Rangia* midden, located on the south bank of Bayou De Cade immediately opposite and a little south of the mouth of Turtle Bayou (Figure 7-2). Four camps, along with scattered live and dead oaks and palmettos, serve to mark the location from afar (Figure 7-3). Overall, the midden stretches for about 320 ft along the bayou and is between 10 and 20 ft wide. In at least three areas, what appears to be intact shell midden, between 1 and 2 ft thick, is exposed along the bank. A large quantity of burned shell also is present.

The site was not subjected to any detailed examination since it was not found along a survey transect or slated for a site revisit. Thus, no auger boring was drilled to determine the stratigraphy. However, several probes were placed down, both along the water edge and in the adjacent marsh. They indicated that the subsurface shell was not much wider than that exposed, and that the midden only extended to a depth of about 1 ft below the ground surface.

Only a small collection of aboriginal material was acquired during the present study. It consisted of three sherds of Baytown Plain, *var. unspecified* and one unclassified incised sherd on Baytown paste. The latter is somewhat unique in that it contains two close-spaced horizontal lines below which were two more sets of close-spaced vertical lines. If not for the paste it could be classed as Fatherland Incised, *var. Fatherland*. Perhaps it is an extremely early version of that type. Whatever the case, an early Mississippi period occupation is

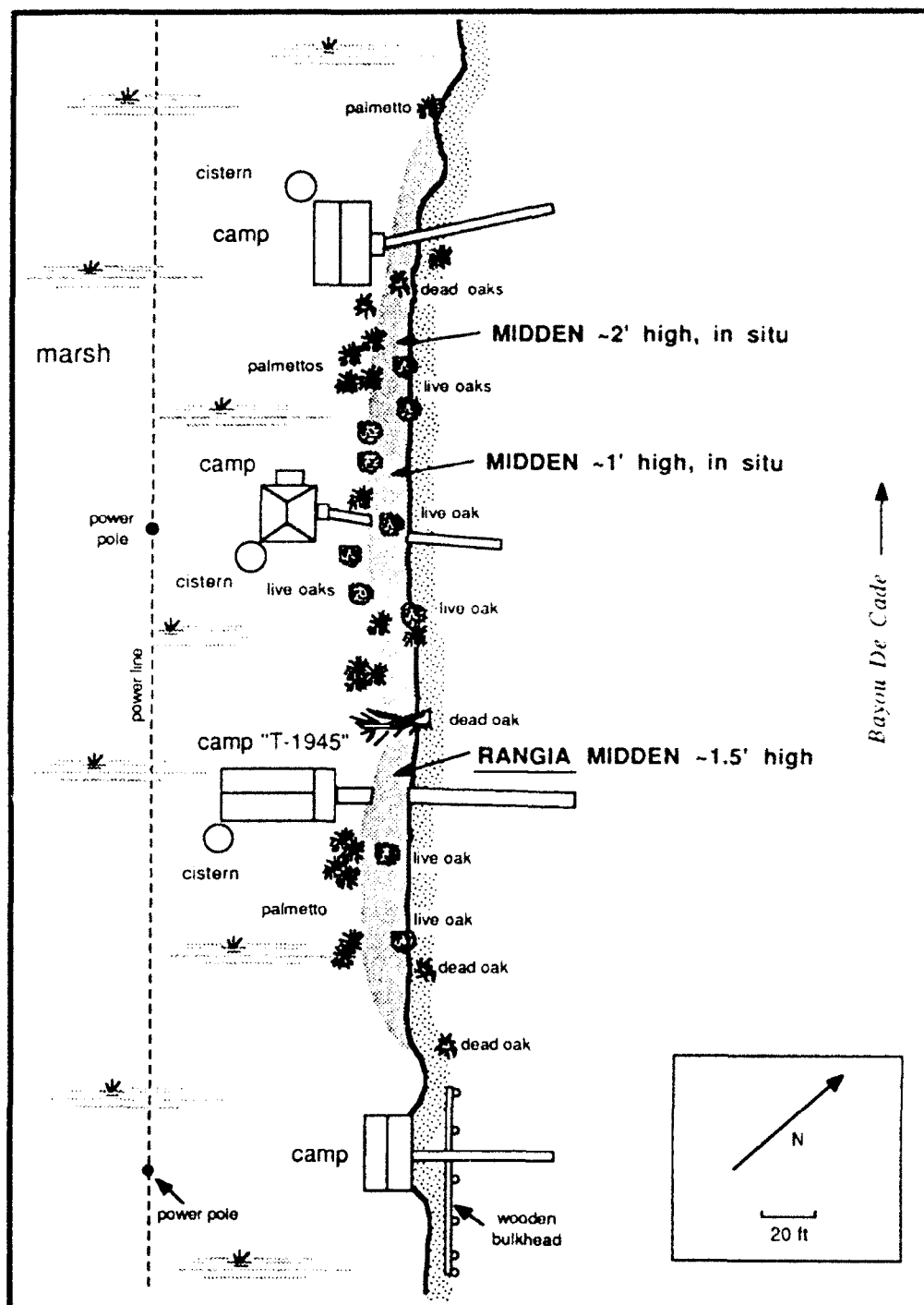


Figure 7-2. Compass and tape map of the De Cade/Turtle Junction site (16 TR 210), showing extent of the *Rangia* deposit and modern camps located at the site.

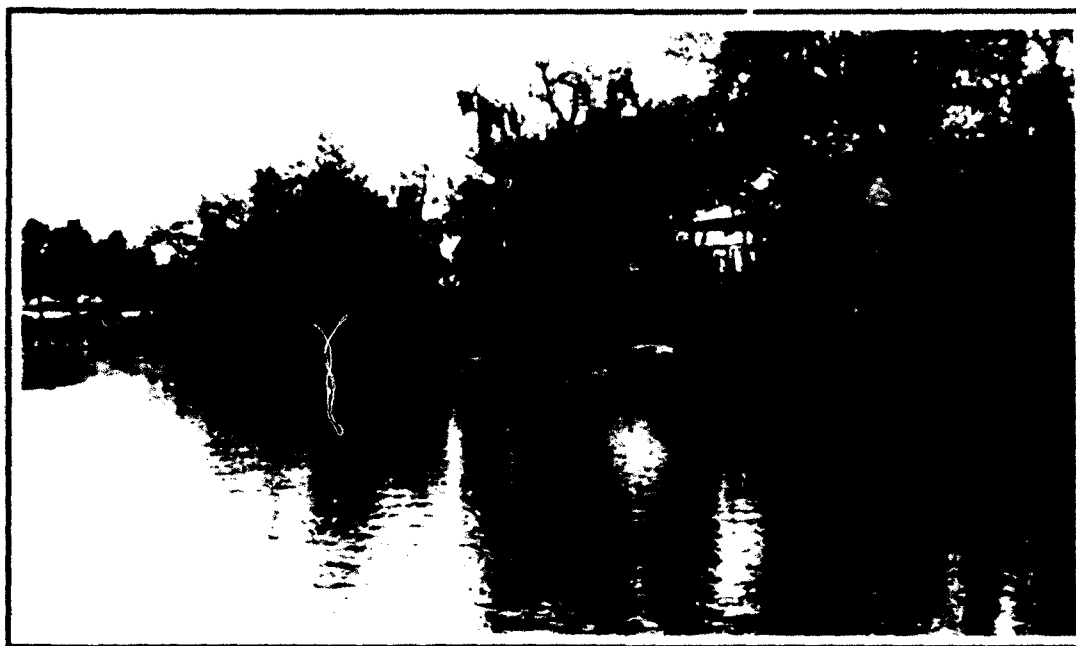


Figure 7-3. Shell midden exposed along the bank of Bayou De Cade at the De Cade/Turtle Junction site (16 TR 210). Looking to the south-southeast. Date: 3/27/87.

suggested. As noted previously, the portion of Bayou De Cade along which the site is located has been identified by Smith et al. (1986:Pl. 54) as a Lafourche distributary channel. Thus, such a relatively late site is in keeping with the channel's age.

Comments and Recommendations

There is not much more to add concerning this site. It probably represents a moderate-size, shellfish-collecting station dating to the early Mississippi period (ca. A.D. 1200 to 1400). Whether or not it is eligible for the National Register must await further research. The fact that several areas of intact midden appear to be present, however, may indicate such a probability.

BOIS D'ARC #1 (16 TR 211)

Location and Description

Occasionally an archeological survey comes across an unexpected discovery that has a significant and dramatic bearing on subsequent interpretations. Such is the case with the Bois d'Arc #1 site and its neighbor, Bois d'Arc #2 (16 TR 212), to be reported upon next. Both sites were found under fortuitous circumstances, at the end of a long day of site revisits, although they had been passed by on numerous previous occasions.

The site is located along the west bank of Turtle Bayou, approximately 1.02 mi south-southwest of the Turtle Bayou site (16 TR 50) and about 0.5 mi north-northwest of the junction of the bayou and the Superior Canal. It consists of a dredged *Rangia* and oyster midden, or series of middens, that, in addition to marsh and natural levee deposits, had been placed as spoil piles in a semicircular ring around the margins of a recently excavated well slip (Figure 7-4). The slip was excavated by the Bois d'Arc Operating Corporation of Houma for

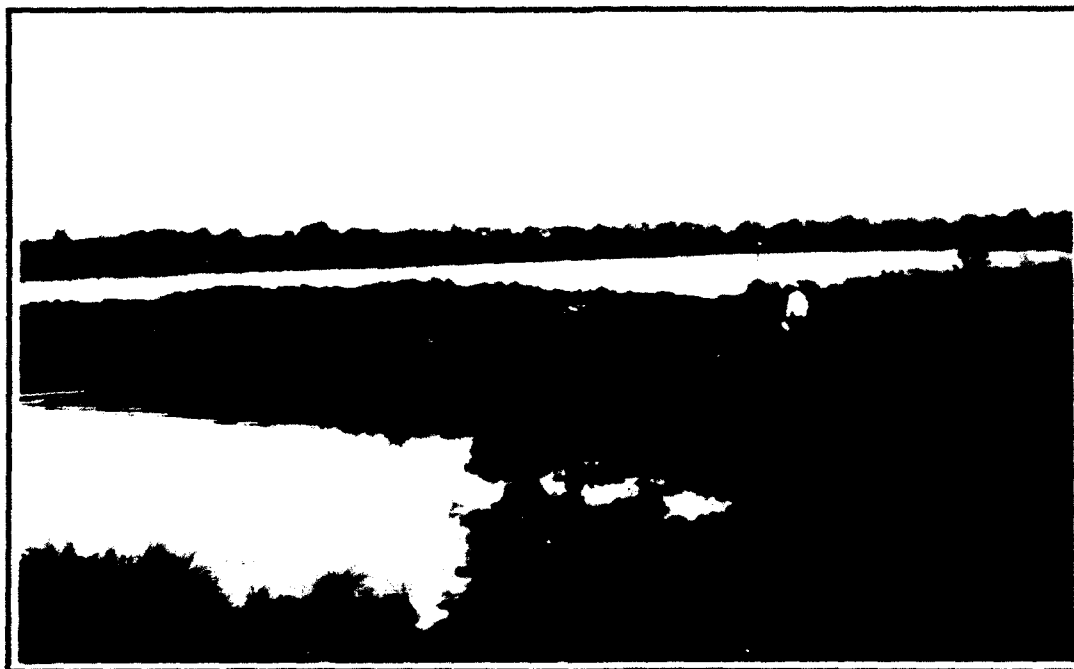


Figure 7-4. Collecting artifacts from the spoil deposits at the Bois d'Arc #1 site (16 TR 211). Turtle Bayou is in the distance and the well slip is in the left foreground. Looking to the southeast. Date: 3/27/87.

the installation of Tenneco "C," Well No. 1 (Louisiana Department of Natural Resources [DNR] 1986a). According to the original coastal use permit application (DNR 1986a), the slip measures about 375 ft long parallel to the bayou, extends 120 ft in width back from the former bayou bank, and was dug to a depth of -8 ft msl. The width and height of the spoil piles vary, but average about 50 ft across and 7 to 8 ft in height. No sketch map was made of this site, but its surface expression is virtually identical to that of Bois d'Arc #2 which is shown later in Figure 7-7.

The CEI survey crew had been drawn to the site, not by the fresh spoil piles themselves, but by the fact that the spoil could be used as an elevated platform from which to view the surrounding terrain in search of potential sites. While several potential site locations were noted, particularly to the west among a line of oak trees on a partially subsided natural levee, it soon was noted that the spoil piles contained a relatively large quantity of aboriginal ceramics and faunal remains. In several cases, the aboriginal material was still apparently in situ in clumps of midden that had been brought up intact by the bucket dredge. Samples of both *Rangia* and oyster were collected from these for potential radiocarbon dating.

Table 7-1 provides a list of the aboriginal ceramics recovered from the spoil piles. This list actually is a compilation of several visits to the site, including two by CEI personnel and one by Rick Serpas of the Louisiana Department of Natural Resources. Selected examples of this material are illustrated in Figures 7-5 and 7-6.

Clearly, the site had a major Tchula period, Tchefuncte culture occupation. This occupation is not the whole story, however, as several Poverty Point Objects, particularly one biconical and one melon shaped with longitudinal incisions (see Figure 7-5, A and B, respectively), indicate an earlier, minor Poverty Point period occupation, while the sherds of

Table 7-1. Ceramic Counts and Percentages for the Bois d'Arc #1 Site (16 TR 211), Spoil Pile Collections. (Counts in Parentheses Indicate Treatments within above Variety.)

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	0	5	5	2.5	--
Lake Borgne Incised <i>var. Cross Bayou</i>	0	5	5	2.5	10.0
<i>var. Lake Borgne</i>	0	5	5	2.5	10.0
Mississippi Plain <i>var. unspecified</i>	0	2	2	1.0	--
Orleans Punctated <i>var. Boothe</i>	0	2	2	1.0	4.0
Tammany Punctated <i>var. Brittany</i>	0	4	4	2.0	8.0
<i>var. Dutch Town</i>	0	1	1	0.5	2.0
<i>var. Tammany</i>	3	22	25	12.6	50.0
(lunate cane punctations)	(0)	(4)	(4)		
(fingernail punctations)	(0)	(18)	(18)		
Tchefuncte Incised <i>var. Bayou Braud</i>	0	2	2	1.0	4.0
<i>var. Tchefuncte</i>	0	4	4	2.0	8.0
(line-filled triangles)	(0)	(2)	(2)		
(simple, straight lines)	(0)	(2)	(2)		
Tchefuncte Plain <i>var. Tchefuncte</i>	7	113	120	60.3	--
Poverty Point Objects					
Amorphous	--	16	16	8.0	--
Biconical plain	--	1	1	0.5	--
Melon shaped with longitudinal incisions	--	1	1	0.5	2.0
Unclassified with punctations	--	1	1	0.5	2.0
Fragments	--	5	5	2.5	--
Total	10	189	199	99.9	100.0

Baytown Plain and Mississippi Plain offer evidence of very minor useage of the site by later aboriginal people. The presence of a major Tchula period occupation, along with a probable Poverty Point component, bears directly on the age of several of the distributary channels in the region, and will be discussed more thoroughly below. For now, a closer look at the Tchefuncte ceramics is in order.

Of interest is the fact that Tammany Punctated, particularly *var. Tammany* (see Figure 7-5, K-S), is the most prevalent type of decorated Tchefuncte ware, accounting for 60% of all decorated ceramics at the site. Next in line is Lake Borgne Incised (see Figure 7-6, D-J), at 20% of all decorated material, followed by 12% for Tchefuncte Incised (see Figure 7-6, L-M) and 4% for Orleans Punctated (see Figure 7-6, K). Similarly striking is the

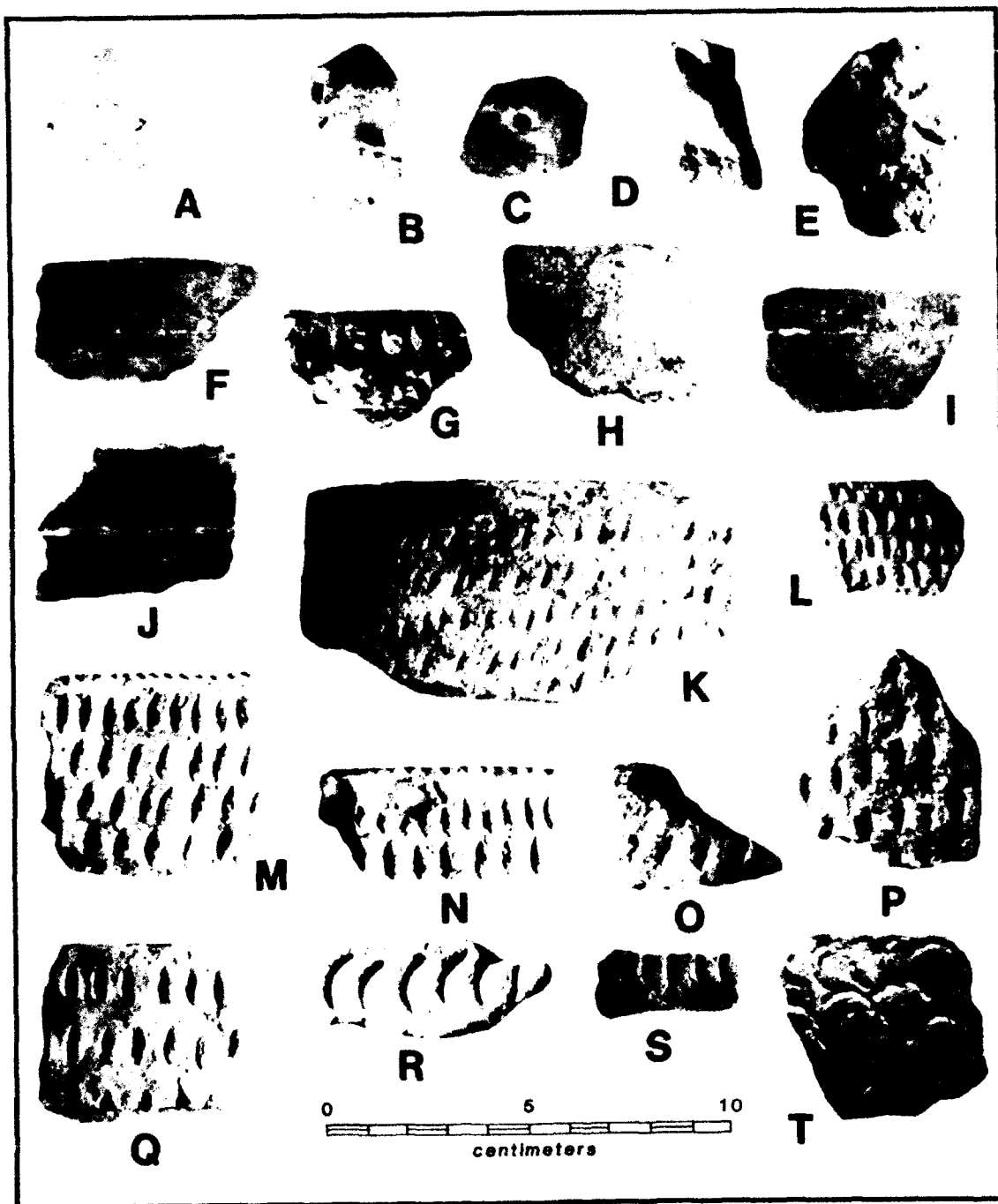


Figure 7-5. Poverty Point and Tchula period ceramics from Bois d'Arc #1 (16 TR 211). A) Biconical Plain Poverty Point object; B) Melon-shaped Poverty Point object with longitudinal incising; C) Unclassified Poverty Point object with punctations; D-E) Amorphous Poverty Point objects; F-J) Tchefuncte Plain, var. *Tchefuncte* (J with incision on lip); K-Q) Tammany Punctated, var. *Tammany* (fingernail punctations); R-S) Tammany Punctated, var. *Tammany* (lunate cane punctations). (All from CEI and Rick Serpas collections.)

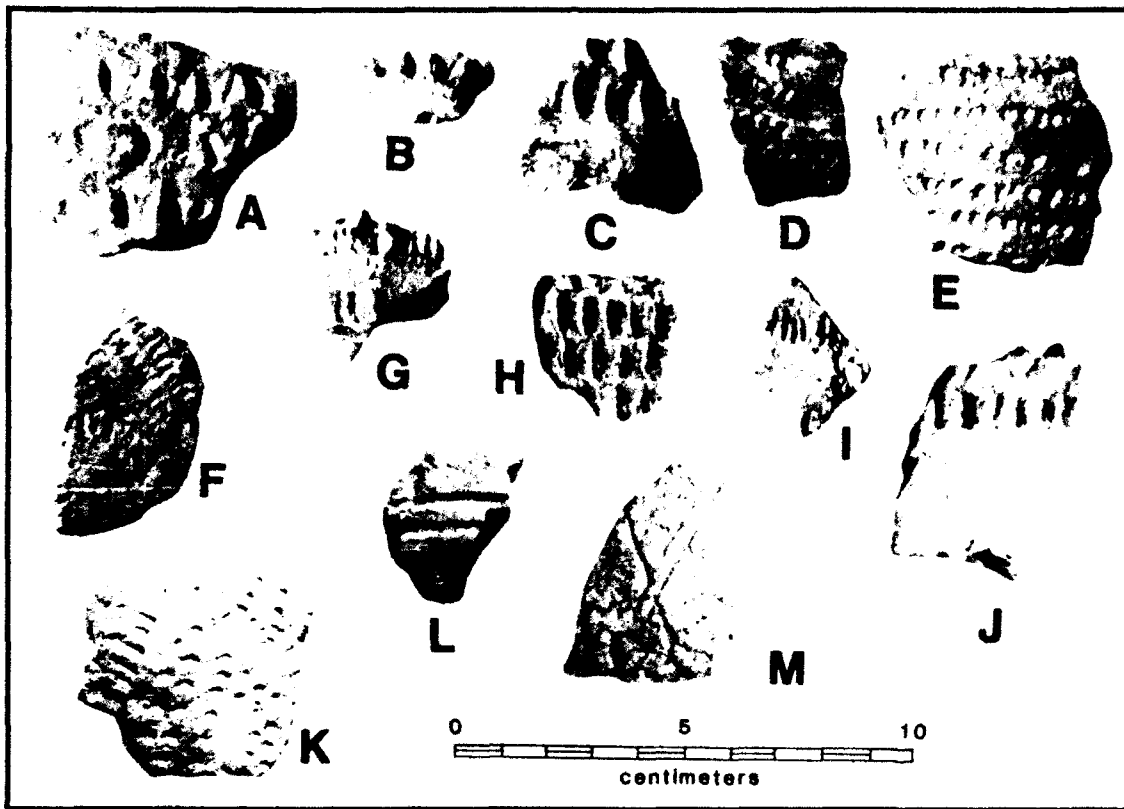


Figure 7-6. Additional Tchula period ceramics from Bois d'Arc #1 (16 TR 211). A-C) Tammany Punctated, var. *Brittany*; D-G) Lake Borgne Incised, var. *Lake Borgne*; H-J) Lake Borgne Incised, var. *Cross Bayou*; K) Orleans Punctated, var. *Boothe*; L) Tchefuncte Incised, var. *Bayou Braud*; M) Tchefuncte Incised, var. *Tchefuncte*. (All from CEI and Rick Serpas collections.)

complete lack of Tchefuncte Stamped. These figures match very closely those recorded for the Tchefuncte ceramics at the Beau Mire site (16 AN 17) in Ascension Parish (Weinstein and Rivet 1978:Table 2), and could be used to argue that the assemblage at Bois d'Arc #1 has close ties to the Beau Mire phase (Weinstein and Rivet 1978:117-123). This is surprising, considering the fact that the site is probably associated with a relict Teche-Mississippi distributary, and that an association with the Lafayette phase would seem more likely. Perhaps, as Weinstein and Rivet (1978) suggest for Beau Mire, such an assemblage is more typical of a late Tchula period occupation, and thus chronological, rather than geographical, implications are involved.

The possible lateness of the Tchefuncte assemblage is confirmed somewhat by one of the radiocarbon dates alluded to previously. Oyster shells obtained from the surface of the spoil piles were submitted to the Center for Applied Isotope Studies at the University of Georgia and produced a date 2120 ± 60 years B.P.: 170 B.C. (UGa-5693). This is an excellent late Tchula date. Unfortunately, another sample of *Rangia* shells retrieved from a block of apparent intact midden containing both Tchefuncte pottery and the biconical Poverty Point Object yielded a date considered too late for the Tchula period, 1610 ± 55 years B.P.: A.D. 340 (UGa-5694). Most likely *Rangia* collected by later occupants of the site became incorporated in the midden block sampled, producing the relatively late date.

In regard to the Poverty Point component, a few suggestions relative to its age can be offered, although the sample clearly is quite small. First, the fact that a melon-shaped Poverty Point Object was found suggests that the assemblage is truly a Poverty Point period entity, rather than simply representing a few remnant objects within the Tchefuncte component. Such could be argued if only the amorphous-shaped objects and/or the biconical plain object had been found, since these forms are known to persist into Tchula times (Ford et al. 1955:46-51; Gibson 1974b:76-80; Weinstein and Rivet 1978:13). Second, since no cylindrical-grooved objects were found, it is likely that the component is late in the Poverty Point period. Cylindrical-grooved objects were found to be one of the best indicators of an early Poverty Point component at the Poverty Point site (Ford and Webb 1956:47-48, Fig. 15). Obviously, as noted, these assumptions are highly tentative considering the size of the Poverty Point assemblage. More will be said on this Poverty Point material, however, in the discussion on the nearby Bois d'Arc #2 site (16 TR 212) to be presented next.

The geological implications of both Tchula and Poverty Point period occupations occurring on a site in the Terrebonne marsh area have been alluded to previously. A closer look now is in order. Smith et al. (1986:Pl. 49) indicate that Turtle Bayou is a Lafourche-age distributary that had to be somewhat earlier in age than the Mauvais Bois and Marmande distributaries since it has been masked in places by deposits from these latter channels. As noted in the discussion for site 16 TR 19, a series of early channels can be traced from the western edge of the Bayou du Large natural levee, although they do not appear to be du Large distributaries, westward towards Turtle Bayou. One of these, in fact, becomes Turtle Bayou and eventually the western portion of Bayou De Cade. This is important, as it is along Turtle Bayou and the western end of Bayou De Cade that a series of Tchula period components were noted at sites 16 TR 28 and 31, along with the Poverty Point components at Bois d'Arc #1 and, as will be seen, at Bois d'Arc #2, as well. This strongly suggests that the Turtle Bayou distributary predates the du Large channel by 1,000 years or so, if the estimate of 2,000 years B.P. is an accurate assessment of the initial age of the Lafourche system in the area (Smith et al. 1986:64). If such is correct, then these early channels must be Teche-age features.

Comments and Recommendations

Bois d'Arc #1 was initially occupied during what appears to have been late Poverty Point times (ca. 1,000 to 500 B.C.), reached its main period of occupation during late Tchula times (ca. 250 B.C. to A.D. 1), and then was only visited on a very limited basis up until middle or late Mississippi times (ca. A.D. 1450 to 1700). It almost certainly served as a small shellfish collecting station, although the quantity of shell present is not particularly striking. What is interesting, however, is the fact that oysters were apparently harvested by the Tchefuncte inhabitants, suggesting a time when there was not a great deal of freshwater coming down the Turtle Bayou channel. This would seem to imply a time prior to any major Lafourche-system discharge. Thus, this factor supports the idea that Turtle Bayou is an abandoned Teche-age channel. The bayou had ceased to receive significant amounts of freshwater following abandonment of the Teche system (a time during which the area was initially occupied by Poverty Point and Tchula period people), thus allowing for the development of oyster populations, and that it was not until after the Tchula period, as the Lafourche system prograded southward, that freshwater once again entered the area reducing salinity to the extent that *Rangia* only were present for collection by post-Tchula period Indians.

At this point it is not known if the site is eligible for the National Register, as no subsurface testing was performed to search for undisturbed deposits. Given the fact that an adjacent well cut at the Bois d'Arc #2 site (16 TR 212) also encountered cultural material, it is likely that the subsided bankline between the two locations still contains intact midden. If so,

and given the importance of such an early site, then Bois d'Arc #1 should be considered potentially eligible.

BOIS D'ARC #2 (16 TR 212)

Location and Description

As noted in the previous site discussion, Bois d'Arc #2 is located about 0.1 mi north-northeast of Bois d'Arc #1 (16 TR 211), along the west bank of Turtle Bayou. Like Bois d'Arc #1, it is represented by the dredged remains of an aboriginal midden, deposited in dredge spoil around the margins of a small well slip placed into the edge of the bayou's bank (Figures 7-7 and 7-8). Unlike Bois d'Arc #1, however, there is practically no shell present, suggesting that the site was primarily an earth midden.

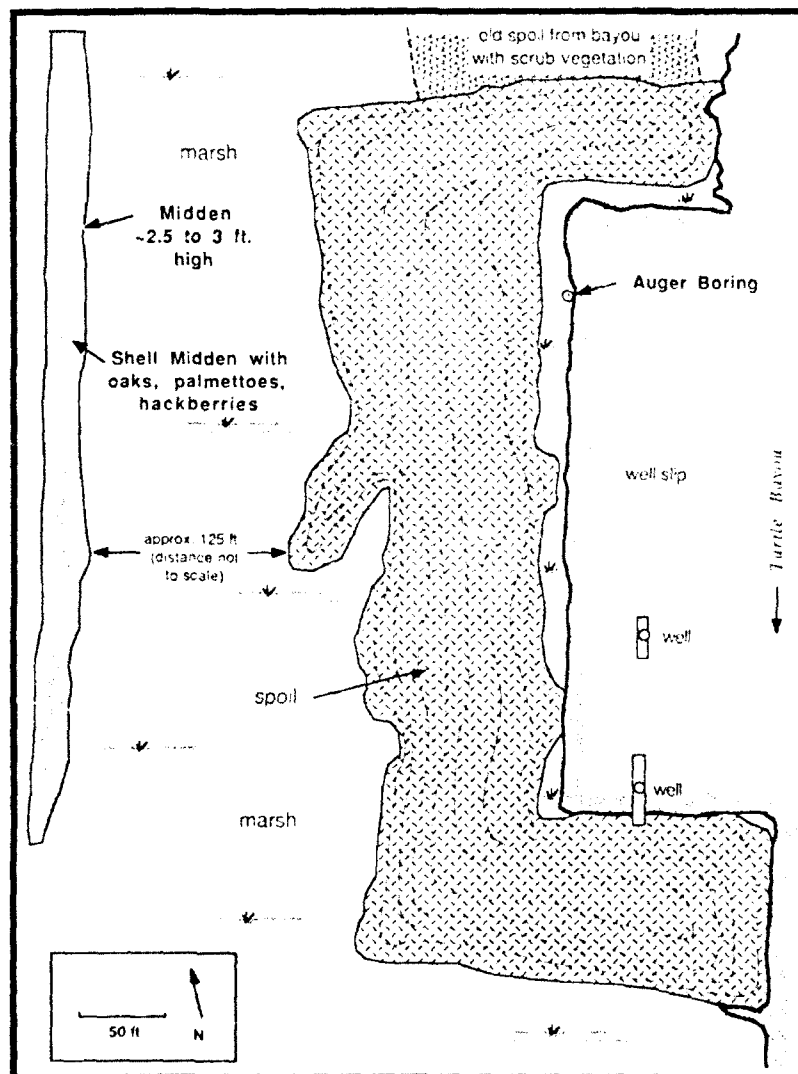


Figure 7-7. Compass and tape map of the Bois d'Arc #2 site (16 TR 212), showing the recently dug well slip and related spoil deposit.

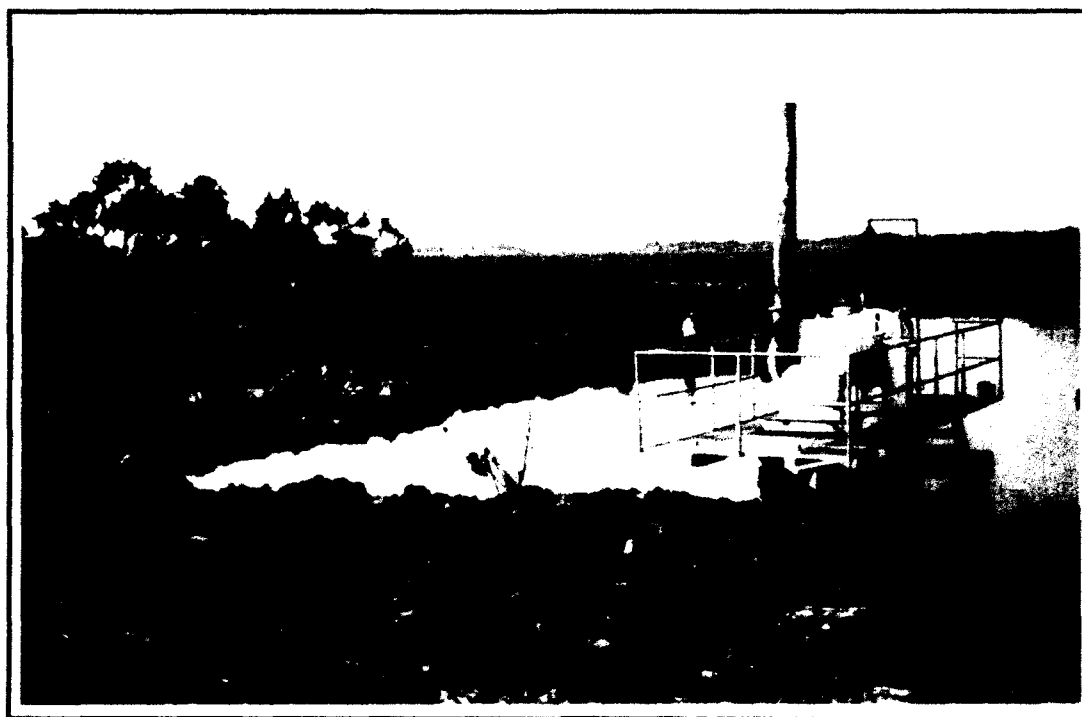


Figure 7-8. Well cut and fringing spoil piles at the Bois d'Arc #2 site (16 TR 212). Note the treeline in the background which marks the location of an unrecorded shell midden. View to the northeast. Date: 3/27/87.

The spoil piles and well slip conform almost exactly in size and shape to those at Bois d'Arc #1. In this case, the well slip was dredged for the placement of Tenneco "C" Well No. 2, for which a coastal use permit application was submitted on 7 November 1986 (DNR 1986b). As with Bois d'Arc #1, the well slip was dug to a depth of -8 ft msl.

To the west of the well slip, a line of oak trees and palmettos marks the location of a shell midden that was not visited during the CEI survey, and which has not yet been recorded at the Division of Archaeology. It may be a continuation of the shell seen from atop the spoil at Bois d'Arc #1 and which was the initial reason for stopping at the spoil piles.

Two visits were made to the site by CEI personnel. During the first, time only allowed for a brief surface collection to be made. During the second visit, however, another more thorough search of the spoil piles produced a greater quantity of artifacts, and a single auger boring was placed down along the edge of the well slip in an attempt to locate the buried natural levee assumed to be the foundation for the dredged midden. On both visits, the vast majority of the artifacts located came from the northern and western spoil piles, indicating that the site probably was situated near the northern end of the slip. As there are no significant differences between the two collections, they have been combined for presentation in Table 7-2. Selected artifacts are illustrated in Figure 7-9.

Obviously, the material from Bois d'Arc #2 is a fine counterpart to that recovered at Bois d'Arc #1. Where the latter site contained a major Tchula period assemblage, but only a minor Poverty Point period one, Bois d'Arc #2 has an occupation principally confined to the Poverty Point period, with only a minor Tchula period assemblage present. As with Bois

Table 7-2. Ceramic Counts and Percentages for the Bois d'Arc #2 Site (16 TR 212), Spoil Pile Collections.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Tammany Punctated <i>var. Tammany</i>	0	1	1	0.7	9.1
Tchefuncte Plain <i>var. Tchefuncte</i>	0	1	1	0.7	--
Poverty Point Objects					
Amorphous	--	33	33	23.2	--
Biconical plain	--	7	7	4.9	--
Biconical grooved	--	8	8	5.6	72.7
Biscuit-shaped plain	--	3	3	2.1	--
Melon-shaped grooved	--	1	1	0.7	9.1
Spheroidal plain	--	1	1	0.7	--
Spheroidal with longitudinal incisions	--	1	1	0.7	9.1
Fragments	--	86	86	60.6	--
Total	0	142	142	99.9	100.0

d'Arc #1, most of the Poverty Point Objects seem to be of later types, principally those of the amorphous and biconical forms (see Figure 7-9, I-K and A-C, respectively), while the apparently early cylindrical-grooved type is absent. Thus, a late Poverty Point period age is suggested. It is also worth noting that not a single, diagnostic, Poverty Point lithic artifact was recovered from either Bois d'Arc #1 or Bois d'Arc #2. In fact, the entire lithic collection from the two locales amounted to one flake from Bois d'Arc #1, and it probably was associated with the strong Tchefuncte occupation there. Clearly, the Poverty Point peoples at these sites were not participating in the vast Poverty Point trade network so typical of the culture, and were not producing the elaborately carved ceremonial objects for which it is noted. Rather, they seem to have been situated at the very distal end of the culture's geographical area, and probably were simply fishing and collecting from the marshes surrounding the sites. Of course, it is possible that these camps on Turtle Bayou were utilized only during warm-weather months, and the people moved inland to congregate at major sites on higher ground during the cooler periods of the year. Where such cool-weather centers might be located is presently unknown. Certainly the Teche-Mississippi natural levees are likely areas for investigation.

In any event, as noted above, a single auger boring was drilled through the marsh at the edge of the well slip in search of both the subsided natural levee and any underlying peat which could be obtained for dating. Results of the boring are presented in Table 7-3. As can be seen, what may be natural levee was encountered at -4.6 ft. The questionable nature of this deposit, plus its relatively shallow depth, suggests that it is not the surface related to the Poverty Point occupation. Definite natural levee was hit at -8.5 ft, and it is more likely that this is the level related to the cultural remains. This is also in keeping with the depth of the well slip, which removed dredge material to about -8 ft msl. Given that the marsh surface at the location of the auger boring was about 1 ft above the water surface in the slip, then the actual depth of the definite natural levee would be about -7.5 ft msl.

Unfortunately, no midden was encountered in the auger boring, indicating either that the actual midden was confined to a very narrow strip adjacent to the old channel, and that subsequent widening of Turtle Bayou and dredging of the slip had removed the midden in that

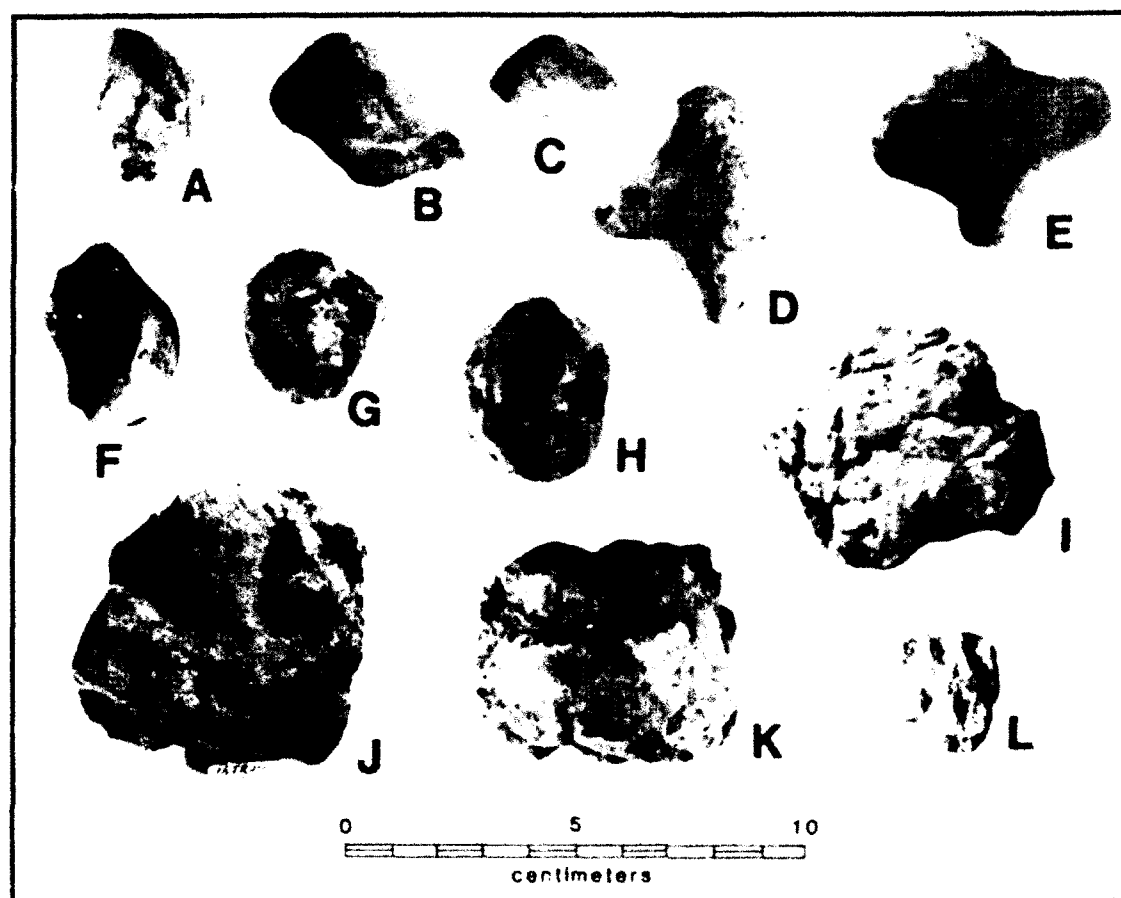


Figure 7-9. Poverty Point and Tchula period ceramics from Bois d'Arc #2 (16 TR 212). A-C) Biconical Plain Poverty Point objects (B-C are fragments); D-E) Biconical grooved Poverty Point objects; F-G) Biscuit-shaped Poverty Point objects; H) Spheroidal plain Poverty Point object; I-K) Amorphous Poverty Point objects; L) Tammany Punctated, var. *Tammany*. (All from CEI collection.)

area, or that the midden was somewhat discontinuous and the boring happened to miss it. Only further testing will help explain the actual situation. Regardless, the boring also failed to penetrate the natural levee, although a total of 23 ft of auger pipe (all the crew had on hand) was used in the attempt. This would seem to suggest that the ancient Turtle Bayou distributary was a relatively prominent watercourse with thick natural levees.

The geomorphological implications of both Bois d'Arc #1 and Bois d'Arc #2 have been presented in the discussion of the former, and there is no need to repeat them here. However, one additional point should be made at this time. If the Turtle Bayou distributary is a Teche-age feature, as now would seem to be likely, then the beach-ridge feature stretched out along Bayou Penchant to the northwest cannot be the remains of the reworked Teche delta as suggested by Smith et al. (1986:64). It either has to be an earlier shoreline, perhaps representing the reworked Maringuoin delta, as suggested by Weinstein and Gagliano (1985), or it is not a shoreline feature at all. This last possibility may be the most reasonable, since no marine shells are present on the ridge features, and the entire line is discontinuous. Perhaps the features are extremely early shell middens which developed on an ancient Teche distributary

Table 7-3. Auger Boring Data from the Bois d'Arc #2 Site (16 TR 212).

Depth Below Surface	Soil Type	Color	Comments
0.0 - 2.2 ft	Silty clay	5Y 4/1	Spoil from Turtle Bayou
2.2 - 3.7 ft	Fine, soft clay	N 4/- (Gley)	Backswamp (?)
3.7 - 3.9 ft	Peat	10YR 2/2	Marsh
3.9 - 4.6 ft	Very soft clay	10YR 3/1	Backswamp (?)
4.6 - 5.6 ft	Stiff clay	7.5YR 3/0	Natural levee (?)
5.6 - 8.5 ft	Silty clay (becomes stiffer with depth)	N 4/- (Gley)	Natural levee (?)
8.5 - 10.2 ft	Very stiff silty clay with oxidation streaks	N 4/- (Gley)	Natural levee
10.2 - 23.0 ft	Very stiff silty clay with some oxidation streaks	5GY 4/1	Natural levee

channel that now is completely subsided, and that they remained the focus of aboriginal occupation for thousands of years, thus building the massive shell piles visible today. Archaic-age *Rangia* middens are known from the Trinity delta of southeast Texas (Ambler 1973; Aten 1983; Weinstein and Whelan 1987), so there is no reason to assume such features would not be present in the Louisiana coastal zone.

Comments and Recommendations

This is clearly one of the most important, if not *the* most important, of all of the sites examined during the present survey. Unfortunately, it is not presently possible to determine whether intact midden is present beneath the marsh. As noted for Bois d'Arc #1, however, such a possibility seems highly likely. For now, therefore, the site should be considered potentially eligible for the National Register, pending additional research.

By way of cultural summary, two components are present. One consists of a strong, apparent late Poverty Point period occupation (ca. 1,000 to 500 B.C.), while the other is represented by a very minor Tchula period assemblage (ca. 500 B.C. to A.D. 1).

LAKE PAGIE EAST (16 TR 220)

Location and Description

This is a wave-washed *Rangia* shell midden located on the east side of Lake Pagie. The site was probably associated with a distributary channel that entered the lake just north of there (Smith et al. 1986:Pl. 54), but shorefront erosion subsequently reworked the shell midden and redeposited it along the lakeshore. The site now consists of a beach deposit of *Rangia* shells and occasional artifacts that extends for approximately 1400 ft along the lake. Much of this area was examined during the present project, but the only artifacts observed were five sherds of Baytown Plain, *var. unspecified*. Two of the sherds were from the rims of slightly restricted subglobular bowls. Unfortunately, the collection says little about the age of the site beyond the fact that it postdates the Tchula period.

Comments and Recommendations

The site consists of a redeposited shell midden of uncertain age. Although subsurface testing was not conducted, intact remains are no longer present and the site is not eligible for the National Register of Historic Places.

Collection Review

As research at sites located during the sample survey or site-assessment programs progressed, it became quite clear that much of the aboriginal ceramics previously analyzed and reported upon by past investigators, particularly McIntire (1958), had been classified incorrectly. In some cases the discrepancies between the earlier analysis and that of the present study were relatively minor and did not change the interpretation of components present. In several instances, however, particularly as noted above for the Bayou Penchant I (16 TR 47) and St. Paul Bayou (16 TR 60) sites, great differences occurred, and these changed the overall site interpretations dramatically. Therefore, it was felt that a review of all past collections obtained from sites in the Terrebonne marsh study area should be attempted to clarify the actual occupational situation at each locale.

Accordingly, several weeks were spent analyzing and photographing collections obtained from the Museum of Geoscience at Louisiana State University. Additionally, a one-day trip to the Center for Archaeological Studies at the University of Southwestern Louisiana was undertaken to check on any collections at that facility. As will be seen, all of the material related to the Terrebonne marsh study area came from LSU, and almost all of it had been obtained by McIntire or his assistants in the early 1950s.

Clearly, this review of previous collections was important. Not only has it brought the analysis of these collections up to date according to the current type-variety system of ceramic classification, but it has identified new components at several sites and corrected identification errors at several others. Thus, the use of the revised data presented here has greatly aided the paleogeographical reconstruction, and actually allows the present reconstruction to be the first since McIntire that is based almost entirely on primary data analysis.

All told, collections from 21 sites were reviewed and reanalyzed. Unfortunately, several collections that once had been present (at least they had been recorded in the LSU catalogue books) were missing, and, thus, could not be analyzed. Nevertheless, a comparison of those site collections reanalyzed for the present study, whether in this chapter or previous chapters, with those presented by McIntire (1958:Pl. 13), shows that only two collections from sites he analyzed (16 TR 42 and 77) could not be relocated. Therefore, it probably is safe to say that as much information as is currently possible to obtain has been squeezed from the extant site collections in the Terrebonne marsh study area.

In any event, the collection review follows. It is presented by site, with a brief section on site location and description offered prior to the actual review. It must be remembered, however, that this information is based largely on site cards, site forms, and/or notes found in collection bags. For this reason the sites were not assessed for National Register potential.

PENNISON (16 AS 16)

Location and Description

This site is located along the north bank of Bayou L'Ourse, about 0.3 mi east of the LA Hwy 398 bridge over the bayou. It probably was first visited by Henry B. Collins in the late 1920s (Collins 1927:201), although it was not officially recorded until August 1953 by

William G. McIntire and Roger T. Saucier. Those investigators described the site as an earth mound atop the Bayou L'Ourse natural levee.

Bayou L'Ourse is an underfit stream now occupying the ancient trunk channel of the Teche-Mississippi. According to Smith et al. (1986:Pl. 36) the site is situated on natural levee deposits which formed within the old Mississippi River channel after the latter was abandoned by the river. Russell (1940:1205) identified Red River natural levee deposits within the old Teche-Mississippi channel along this stretch of Bayou L'Ourse, so it is likely that the levee upon which the site rests is a Red River natural levee.

McIntire and Saucier obtained a moderate-size collection from the site, which although not presented in McIntire's (1958:Pl. 13) ceramic table, was used by him (Pls. 7, 8) to identify Coles Creek and Plaquemine components. The site was not discussed by either Newman (1977), Weinstein et al. (1978), or Weinstein and Gagliano (1985), but was briefly investigated by Altschul (1978:138-139). The latter attempted to visit the location, but could not find it due to access problems and residential development along Bayou L'Ourse. He assumed that the mound had been destroyed. Whether this is true or not will have to await a more detailed survey of the area.

Collection Review

The 1953 collection (Catalogue No. 53-487) of McIntire and Saucier was relocated at the LSU Museum of Geoscience, was analyzed for the present study, and is provided in Table 7-4. Clearly, there is more to the site than simply Coles Creek and Plaquemine components, although these do exist. Initial occupation occurred during the Tchula period, and is evidenced by the sherds of Tchefuncte Plain and Tammany Punctated. The fact that three sherds of Tammany were found, to the exclusion of any other decorated Tchefuncte types, may indicate that this was a late Tchula period component (Weinstein and Rivet 1978:55).

Interestingly, as with the Bayou Caroline Mounds (16 AS 36) located to the southwest on the same ancient Teche-Mississippi channel, there apparently was a long hiatus in occupation following the Tchula period, equivalent to the Marksville and Baytown periods, and it was not until the middle to late Coles Creek period that occupation occurred once more. This latter occupation can be identified by the sherds of *Athanasio* and *Tiger Island*, and possibly those of *Hardy*, although the latter could easily be elements in the succeeding Plaquemine occupation. The three sherds of Evansville Punctated may also be part of the Coles Creek assemblage.

The Plaquemine component can be recognized by the sherd of Anna Incised, which would be *var. Anna* if not for its Baytown paste, and possibly the *Hardy* specimens. This apparently was early in the Mississippi period, following close behind the Coles Creek occupation. Either one or both of these occupations could have been responsible for construction of the mound reported by McIntire and Saucier.

Another gap in occupation then occurred, equal to the middle Mississippi period, for the final assemblage present can be related to the late Mississippi period, and possibly the Mississippian culture as well. It is marked by the sherds of Mississippi Plain and Grace Brushed. The fact that no contemporary Plaquemine culture wares, such as Maddox Engraved or Fatherland Incised, were found, suggests that this could be a relatively pure late Mississippian occupation, although sample size may be a more logical explanation of the situation.

Table 7-4. Ceramic Counts and Percentages for the Pennison Site (16 AS 16), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Anna Incised <i>var. unspecified</i>	1	0	1	0.8	7.1
Baytown Plain <i>var. unspecified</i>	3	86	99	81.8	--
Coles Creek Incised <i>var. Athanasio</i>	1	0	1	0.8	7.1
<i>var. Hardy</i>	1	1	2	1.7	14.3
Evansville Punctated <i>var. unspecified</i>	3	0	3	2.5	21.4
Grace Brushed <i>var. Grace</i>	0	1	1	0.8	7.1
Mississippi Plain <i>var. unspecified</i>	0	4	4	3.3	--
Pontchartrain Check Stamped <i>var. Tiger Island</i>	0	1	1	0.8	7.1
Tammany Punctated <i>var. Tammany</i>	0	3	3	2.5	21.4
Tchefuncte Plain <i>var. Tchefuncte</i>	2	2	4	3.3	--
Unclassified incised on Baytown paste	0	1	1	0.8	7.1
Unclassified decorated on Baytown paste	0	1	1	0.8	7.1
Total	21	100	121	99.9	99.7

Comments

The Pennison site contains a long, but sporadic, occupation sequence, beginning in the late (?) Tchula period (ca. 250 B.C. to A.D. 1). Other occupations include middle to late Coles Creek (ca. A.D. 850 to 1200), early Mississippi (Plaquemine culture) (ca. A.D. 1200 to 1350), and late Mississippi (possibly Mississippian culture) (ca. A.D. 1500 to 1700).

The site most likely served as a small village, based on the presence of a probable temple mound. Given its proximity to the Gibson Mounds site (16 TR 5), Pennison may have served as a satellite to that more impressive locale.

MANDALAY PLANTATION (16 TR 1)

Location and Description

This important site originally was discovered by Randolph Bazet who obtained at least two collections from the locale in 1924 and 1934. He reported the site to McIntire in 1953 and

the latter officially recorded it as the first site in Terrebonne Parish. It was described as an earth mound at Mandalay Plantation, about 0.75 mi from Bayou Black (LDA site form). As has been pointed out previously, and as will be made abundantly clear later, there are many problems concerning the actual locations of most of the sites reported to McIntire by Bazet. This may be the case with 16 TR 1, as well, although a relatively small site does exist in the location of 16 TR 1 as identified on LDA maps. More will be said of this later.

For now, the location of the small site will be considered the same as 16 TR 1. It is situated in a canefield along the south edge of a drainage canal, on what is probably a small crevasse channel leading from Bayou Black southward into the backswamp, about 0.5 mi east of the old Mandalay Plantation house. The crevasse channel is not specifically identified by Smith et al. (1986:Pl. 44), although they show a southern extension of the Bayou Black natural levee to the south-southwest and this may be a continuation of the crevasse.

Whatever the case, McIntire analyzed the material obtained by Bazet and used that to identify a Marksville period occupation (McIntire 1958:Pls. 2, 4, 13). This fact, coupled with the site's location, became extremely important in McIntire's (1958:64) interpretation of the Red River's reoccupation of the old Teche-Mississippi course:

There are two additional sites of the Marksville period associated with the Teche-Mississippi near Houma. Both are near the Mandalay Plantation [16 TR 1 and 73] about a mile south of Bayou Black. Unfortunately, the collections from these sites were not taken *in situ*, but were gathered from adjacent cultivated fields during the early thirties. Many years of intensive farming have destroyed any structure of the former sites and an authentic connection between them and the Boeuf-Red phase of the Teche-Mississippi history is unlikely to be established. However, the fact that Marksville pottery was found on the same stream strengthens the Gibson case.

Unfortunately, as will be seen, McIntire's location of 16 TR 73 in a cultivated field is incorrect (the site was a dredged shell midden located farther to the south), so only 16 TR 1 can be considered direct evidence of a Marksville occupation that far down Bayou Black.

In 1970, Philip Phillips (1970:899-900, Fig. 444) established Mandalay Plantation as the type site of the Mandalay phase of the Marksville period, using the data reported by McIntire. He noted:

This is an invention of my own which will undoubtedly be quickly superseded as soon as archaeologists in the delta get to work on the problem. At the moment it can only be defined as a collection of sites in the Teche-Mississippi region that have yielded Marksville period sherds in very minor quantities. . . .

Gibson might have been a better type station because the site has been tested and the geological correlation with the Boeuf-Red occupation of the Teche-Mississippi course established . . . , but the name is already heavily committed in the Caddoan area. Mandalay has at least the advantage of being ostensibly a pure component.

With the meagre ceramic data available, the only observation that can be made about the Mandalay complex is that frequencies of Marksville Incised run way ahead of Marksville Stamped. According to McIntire's figures Grand Bayou had 13.5% Marksville Incised (which I make to have been 17 sherds) and no Marksville Stamped. This is the extreme case, but in all others except

one, Marksville Incised outnumbered Marksville Stamped by more than two to one. Without firsthand knowledge of the pottery it is useless to speculate on the meaning of these unusual proportions [Phillips 1970:899].

In 1977, Alan Toth (1977:470) established the Jefferson Island phase of the early Marksville period, based on material from the Lake Peigneur (16 IB 100) site on the Jefferson Island salt dome (see, also, Toth 1988). Weinstein et al. (1978:21) extended this phase eastward into the present study area after locating early Marksville ceramics at the Gibson site (16 TR 5), and reduced the Mandalay phase to cover only the latter half of the Marksville period. Of course, all of this was done without any of these subsequent investigators actually having looked at the original Bazet collections from Mandalay. Similarly, Neuman (1977:21) recorded only that the site consisted of a Marksville period earth mound.

It, therefore, fell to Altschul (1978:120-124) to revisit the reported site location during his survey of the planned Terrebonne Parish sewerage system. Although Altschul misinterpreted the site numbering system used by McIntire, which led to his unnecessary questioning of McIntire's locational information, he also interviewed Bazet prior to the latter's death, and this gave rise to a more serious question. Bazet apparently could not remember ever having told McIntire of any sites at Mandalay Plantation, and was, in fact, "positive that no site existed at Mandalay Plantation" (Altschul 1978:120). Thus, the actual location given by McIntire is open to reevaluation.

In an effort to clarify the situation, Altschul went to the general area of the McIntire location, and found a scatter of aboriginal pottery in the position noted above. Most of the material came from one circular scatter immediately south of a farm road and ditch, while a single sherd was found about 1150 ft to the southwest. Only 17 "plain" body sherds were found in both locations, which may be Baytown Plain, although Altschul fails to specify the sherds' paste. Shovel tests failed to identify intact midden, as all cultural material appeared to be situated within the plow zone. Although hesitant about definitely identifying this site as 16 TR 1, Altschul (1978:124) eventually implies that he probably was at the site, and that years of plowing had destroyed all evidence of the earth mound reported by McIntire. Support for this conclusion comes from a 1955 aerial photograph of the area (Ammann International 1955) which shows a small, dark, circular patch in the canefield just north of the main sherd scatter recorded by Altschul. This may represent the remains of the plowed-down mound.

Finally, the Mandalay Plantation site was identified as an initial-occupation Marksville locale by Weinstein and Gagliano (1985:141, Fig. 7), again based on McIntire's ceramic data. As will be seen, this appears to be a correct interpretation of the major component present at the site.

Collection Review

As noted, Mandalay Plantation is important as the type site of the Mandalay phase and as a reported single-component Marksville locale. Thus, McIntire's (1958:Pl. 13) analysis, small as it is, is as follows:

<i>Type</i>	<i>Percentage</i>
Marksville Stamped	30.0
Marksville Incised	70.0

Clearly, this is not much to go on, and a review of the actual collections became mandatory. After a brief search of the collections housed at the LSU Museum of Geoscience, four bags of artifacts, each labeled "16 TR 1" or "TR 1," were located. Two bags obviously

contained Bazet's original collections. One (Catalogue No. 53-439) was identified as coming from Mandalay Plantation, had McIntire's latitude and longitude coordinates, and the donor's name, "R. Bazet." The second (Catalogue No. 53-447) was recorded as having also come from Mandalay Plantation, also having been donated by R. Bazet, and was collected in 1934. This implies that the first bag contained the 1924 collection, as noted earlier.

The other two bags are problematic. One had material in it with Catalogue Nos. 44, 45, and 46. The other contained material only with Catalogue No. 46. Cross reference with the catalogue records noted that this material came from a site called "Shell Mound" and that it had been acquired sometime in the 1930s. A review of the ceramics within these bags clearly indicated that this was not Mandalay Plantation. Most of the pottery was thin and very well made, and appeared to be identical to Baytown Plain, *var. Vicksburg*, even to the point of containing exterior fire-clouded surfaces and the highly diagnostic "Vicksburg rim" (Phillips 1970:56). Included also were two classic examples of Coles Creek Incised, *var. Macedonia* (Phillips 1970:75), a typical Yazoo Basin ware that does not occur (at least it has not been reported) in south Louisiana. The impression one gets, therefore, is that this material is not from south Louisiana, but may, in fact, be from a shell midden in the Yazoo Basin. Perhaps it is one of Ford's early sites that accidentally was placed in bags labeled "16 TR 1."

In any event, because of the above, only Bazet's two collections (Catalogue Nos. 53-439 and 53-447) were reanalyzed and are included together in Table 7-5. Certainly there is a Marksville component present, and an apparent early one at that. The possible sherds of Baytown Plain, *var. Marksville* have a soft, chalky paste typical of the early Marksville period (Toth 1988:223), as does the sherd of *Sunflower*. The sherd of Marksville Incised may also be an early Marksville specimen, although it is on a slightly better paste, approaching the quality of *Satartia*, suggesting that it actually may be somewhat later in the Marksville period. This indicates that the establishment of Mandalay as the type site for the area's late Marksville phase (Weinstein et al. 1978) was probably premature. Perhaps Mandalay should be eliminated as a Marksville phase altogether, Jefferson Island should be retained as the region's early Marksville phase, and another name chosen from a site offering a good late Marksville component as the area's late Marksville phase.

In any event, it is interesting to note that no Marksville Stamped was found in the reanalyzed collection. Perhaps McIntire identified the French Fork sherd as his Marksville Stamped. The design on the sherd is similar to that recorded for the *McNutt* variety, although its paste is too early for its identification as such, and McIntire may have misinterpreted the closely spaced, incised lines as an indication of rocker stamping.

Regardless, the French Fork sherd and the *Troyville* rim, which actually is a triangular lug, suggest that a small Baytown period occupation also was present at Mandalay Plantation. This was followed by a probable middle to late Coles Creek period occupation, recognized by the sherds of *Little River*, the possible *Percy Creek* specimen, and the *unspecified* example of Coles Creek Incised. The latter sherd exhibits widely spaced, overhanging lines on paste equivalent to the *Little River* variety of Baytown Plain. It could be *var. Blakely* or a local equivalent, but *unspecified* seems a better assessment at this point.

Comments

Despite some confusion regarding the location of the Mandalay Plantation site, it seems safe to say that it most likely was in the area identified by both McIntire and Altschul. The presence of an earth mound, now apparently gone, and a small scatter of related occupational debris suggest that the site functioned as a small village during its existence. Whether the mound was related to either of the three components thus far recognized at the locale cannot be adequately answered. If the quantity of ceramics is any indication of the intensity of the

Table 7-5. Ceramic Counts and Percentages for the Mandalay Plantation Site (16 TR 1), Bazet's LSU Collections.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain					
var. <i>Little River</i>	0	4	4	5.0	--
var. <i>Marksville (?)</i>	6	16	22	27.5	--
var. <i>Percy Creek (?)</i>	1	0	1	1.3	--
var. <i>Troyville</i>	1	0	1	1.3	--
var. <i>unspecified</i>	5	42	47	58.8	--
Coles Creek Incised					
var. <i>unspecified</i>	0	1	1	1.3	20.0
French Fork Incised					
var. <i>unspecified</i>	0	1	1	1.3	20.0
Marksville incised					
var. <i>Marksville (?)</i>	0	1	1	1.3	20.0
var. <i>Sunflower</i>	0	1	1	1.3	20.0
Unclassified Incised on Baytown paste	0	1	1	1.3	20.0
Total	13	67	80	100.4	100.0

specific components, then the Marksville occupation would have to get the edge, and the mound could have been related to it.

In summation, the site was initially the location of a small early Marksville (ca. A.D. 1 to 200) village or hamlet, possibly containing a mound. This was followed by a very weak, possible late Marksville occupation (ca. A.D. 200-400), which, in turn, was followed by another minor occupation sometime during the Baytown period (ca. A.D. 400-700). An apparent hiatus equivalent to the early Coles Creek period then occurred, but the site again was occupied during middle to late Coles Creek times (ca. A.D. 850-1100). Clearly, more work at this important locale needs to be conducted.

ST. ELOIE PLANTATION (16 TR 3)

Location and Description

This site first was recorded by McIntire in September 1952. It apparently had been known for several years, however, as a collection obtained from the site in 1939 is now housed at LSU. Unfortunately, the person responsible for this collection is not recorded. The site was described as a shell midden in a plowed field on Marmande Ridge, about 1 mi north-northwest of Theriot. It reportedly was almost completely destroyed by the plowing (LDA site form). McIntire (1958:Pl. 2) did not provide any ceramic data on the site, and only illustrated it on his general site-distribution map.

Neuman (1977:21) likewise reported only that the site was a shell midden. As with Mandalay Plantation (16 TR 1), it was Altschul (1978) who relocated what he thought was the actual site during his sewerline survey of Terrebonne Parish. Unfortunately, his interpretation of the data actually has served to confuse the locational situation.

Altschul (1978:103) interviewed Randolph Bazet, who reportedly did not remember any sites other than 16 TR 19 on Marmande Ridge. Altschul then apparently assumed that sites

16 TR 3 and 19 were the same. Thus, when Altschul located previously unreported aboriginal material in a field adjacent to Bayou du Large, he concluded that this new site was the 16 TR 3 element of his combined site. This conclusion was reached despite the fact that the location provided by McIntire and plotted on maps at the LDA was to the southwest of 16 TR 19, down Marmande Ridge, and not to the east adjacent to Bayou du Large. Altschul (1978:Table 15) obtained a fairly large collection of material from his new site, which he labeled "Area 1" of site 16 TR 19/3 and which now is recorded as the Altschul site (16 TR 218, see previous chapter). The collection is highly important for two reasons. One, it almost certainly represents a single-component early Mississippi period, Plaquemine culture, occupation. Two, as will be seen, it is not at all like the original collection made at 16 TR 3 now housed at LSU, thus indicating that Altschul's site on Bayou du Large cannot be McIntire's 16 TR 3. Further support for this latter conclusion comes from a catalogue card included in the LSU collection bag. The card notes that the material came from a site on St. Eloie Plantation property, that the *plantation* (assumed to be the main buildings) was located 1 mi north of Theriot, but that the site was a shell midden located "about 1/4 mi SW of conical mound." The mound can only be 16 TR 19, thus indicating that McIntire's original location was probably fairly accurate. Unfortunately, one of the CEI survey crews failed to locate any evidence of a shell midden in the area indicated by McIntire, although they specifically attempted to find 16 TR 3 while walking to several of their terrestrial survey transects. Despite this, the evidence suggests that the site is situated along Marmande Ridge, somewhere to the southwest of the mound at 16 TR 19. Only a concerted survey of the area will solve the problem.

Collection Review

As noted, two collections apparently were acquired from 16 TR 3. One (Catalogue No. 5253) is still housed at the LSU Museum of Geoscience. It is the one obtained in 1939 from a point about 0.25 mi southwest of the mound at 16 TR 19. The other (Catalogue No. 52-140) was probably acquired by McIntire (it is in his cataloguing system), but could not be relocated at LSU.

Although small, the collection is revealing. It consists of 17 sherds of Baytown Plain, *var. unspecified* (one of which is a rim off a shallow bowl while another is from a triangular base) and one sherd of Larto Red, *var. unspecified*. Several of the Baytown Plain specimens look "early" and may be indicative of a Baytown or Marksville component. Clearly, this is not from the Plaquemine occupation at Altschul's Area 1 at his site 16 TR 19/3. Furthermore, one would expect at least a sherd or two of Baytown period pottery in Altschul's collection, given its size.

This substantiates the assumption noted above that 16 TR 3 is not at or east of 16 TR 19, but, rather, is probably farther down Marmande Ridge to the southwest. Given this probability, then the site's association with the Marmande distributary channel becomes a matter of record. Smith et al. (1986:Pl. 50) indicate that this channel is a Lafourche-age distributary off Bayou du Large.

Comments

Despite the locational problems regarding the St. Eloie Plantation site, it is clear that a small Baytown period component probably is present. Given the fact that Altschul's site on Bayou du Large and the mound at 16 TR 19 date to the Coles Creek and Mississippi periods, it is likely that 16 TR 3 was not associated with either. Rather, the site appears to have been an early occupation of the Marmande Ridge distributary, probably by people who also occupied site 16 TR 43 (to be reviewed below) located in the marsh to the southwest.

BAYOU NEW ROUTE (16 TR 8)

Location and Description

Reported by William G. McIntire and James W. Morgan in August 1951, this small shell midden was then located along the west bank of Bayou du Large about 600 ft north of the junction of du Large and Bayou New Route (LDA site form). Smith et al. (1986:Pl. 54) identify both bayous as Lafourche distributary channels.

McIntire (1958:Pls. 2, 8, 12) illustrated the site several times on his distribution maps, and, based on his ceramic analysis (Pl. 13), identified a Plaquemine component at the locale. It was one of several Plaquemine sites related to Bayou du Large or its distributaries (Pls. 10, 12) that helped identify the relative lateness of the entire Lafourche system.

Phillips (1970:Fig. 447) included the site as a Bayou Petre phase locale on his Mississippi period site-distribution map. It is clear that this was based on McIntire's (1958:Pl. 3) identification of a "Fort Walton Type" in his ceramic analysis. Such categories were used by Phillips (1970:952-953) to pinpoint Bayou Petre components.

Neuman (1977:22) later included the site in his list of coastal locales and reported Coles Creek and Mississippian components. Weinstein and Gagliano (1985:Figs. 9, 10) showed the site on their Coles Creek and Mississippi period maps of the Lafourche region, based on the cultural interpretations supplied by McIntire, Phillips, and Neuman.

Collection Review

The prehistoric ceramic collection from Bayou New Route, now housed at the LSU Museum of Geoscience, was reanalyzed for the present study. The collection consists entirely of McIntire and Morgan's 1951 material (Catalogue No. 51-4). Because of this, it is instructive to review McIntire's (1958:Pl. 13) original analysis:

<i>Type</i>	<i>Percentage</i>
Leland Incised	16.7
Fatherland Incised	16.7
Australia Interior Incised	16.7
Fort Walton Type	16.7
Manchac Incised	33.3

This almost certainly indicates one sherd each of the first four types and two sherds of Manchac Incised.

The reanalyzed collection is presented in Table 7-6, while selected sherds are illustrated in Figure 7-10, A-E. In equating the two analyses, it seems probable that McIntire missed the crosshatched lines on the sherd of Maddox Engraved (see Figure 7-10, E) and identified it as Leland Incised. His Fatherland Incised is probably our *Hardy* (see Figure 7-10, A), while his Manchac Incised sherds equate with our sherd of *Manchac* and one of those identified as Mazique Incised, *var. unspecified* (see Figure 7-10, B-C). His Australia Interior Incised is certainly the same as our Anna Incised, *var. unspecified* (see Figure 7-10, D), which, in actuality, is an *Australia* design occurring on paste equivalent to Baytown Plain, thus necessitating its unspecified classification. By the process of elimination, McIntire's "Fort Walton Type" can only be the other *unspecified* sherd of Mazique Incised.

In fact, the two *unspecified* Mazique Incised sherds are worthy of additional comment. One actually consists of a typical *Manchac* design coupled with horizontal overincisions (see Figure 7-10, C), while the other could possibly be classed as *Kings Point* if it was not so badly eroded (see Figure 7-10, B). Also noteworthy are the two sherds of *Greenville*, which are classic examples of the variety.

Comments

Based on the above reanalysis, it is clear that McIntire's original estimate of a Plaquemine component was quite accurate. Neuman's suggestion that an earlier Coles Creek component existed as well, can be substantiated by the sherds of *Little River* and the possible sherd of *Kings Point*. It also is conceivable that the sherds of *Manchac* and *Hardy* are related to a transitional Coles Creek period component.

Overall, the data suggest a time range of approximately A.D. 1000 or 1100 to A.D. 1400 or 1500. This is in keeping with all previous assessments.

BAYOU DU LARGE #6 (16 TR 20)

Location and Description

Located on the east bank of Bayou du Large, about 2.9 mi upstream from the junction of the bayou and the pass leading to Mud Lake, this site first was reported by McIntire in August 1951. It was described primarily as a wave-washed shell midden, although a very thin lens approximately "1.5 in" (ft ?) thick was still exposed in places in the bank (LDA site form).

McIntire (1958:Pl. 13) does not present any ceramic data on the site, although he does show it on his initial site-occupation map (Pl. 12) as a Plaquemine locale. Neuman (1977:22) simply lists it as a shell midden.

Table 7-6. Ceramic Counts and Percentages for the Bayou New Route Site (16 TR 8), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Addis Plain var. <i>Greenville</i>	0	2	2	2.0	--
Anna Incised var. <i>unspecified</i>	1	0	1	1.0	16.7
Baytown Plain var. <i>Little River</i> var. <i>unspecified</i>	0 9	1 81	1 90	1.0 90.9	-- --
Coles Creek Incised var. <i>Hardy</i>	0	1	1	1.0	16.7
Maddox Engraved var. <i>unspecified</i>	0	1	1	1.0	16.7
Mazique Incised var. <i>Manchac</i> var. <i>unspecified</i>	0 2	1 0	1 2	1.0 2.0	16.7 33.3
Total	12	87	99	99.9	100.1

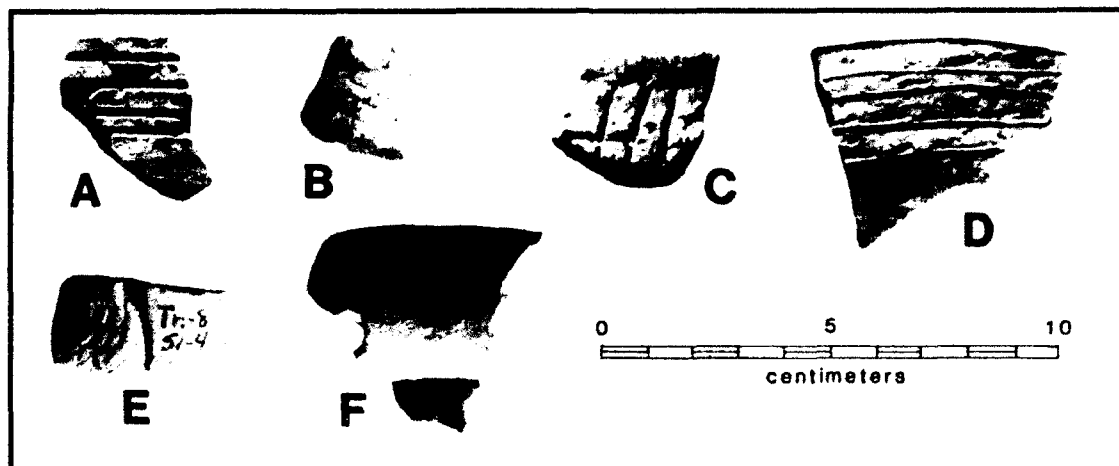


Figure 7-10. Aboriginal ceramics from Bayou New Route (16 TR 8) and Bayou du Large #8 (16 TR 24). A) Coles Creek Incised, var. *Hardy* (16 TR 8); B-C) Mazique Incised, var. *unspecified* (16 TR 8); D) Anna Incised, var. *unspecified* (16 TR 8); E) Maddox Engraved, var. *unspecified* (16 TR 8); F) Baytown Plain, var. *unspecified* (shallow bowl rim reminiscent of Bell Plain, 16 TR 24). (All from LSU collections.)

Collection Review

The 1951 McIntire collection (Catalogue No. 51-54) was obtained from the LSU Museum of Geoscience and analyzed for this study. Unfortunately, it is relatively small, consisting primarily of 25 sherds of Baytown Plain, var. *unspecified* (26 body sherds and one rim). However, one incised sherd, which could be either Coles Creek Incised, var. *Hardy* or Mazique Incised, var. *Manchac*, also was present. This undoubtedly is the sherd which allowed McIntire to assign an initial Plaquemine occupation to the site. Today, however, both *Hardy* and *Manchac* are considered transitional Coles Creek markers, so the site would appear to be a bit earlier than originally interpreted.

Comments

This site was most likely occupied during transitional Coles Creek times, from about A.D. 1000 to 1200.

FOURLEAGUE BAY (16 TR 21)

Location and Description

This site is a completely wave-washed shell midden located along the eastern shore of Fourleague Bay immediately south of the mouth of Little Carrion Crow Bayou. It was recorded by McIntire in August 1951, at which time a "few badly wave-washed sherds were found" (LDA site form). It later appeared on McIntire's (1958:Pl. 2) site map as a shell midden. Neuman (1977:22) similarly reported the site as a shell midden.

Smith et al. (1986:Pl. 53) identified a Lafourche distributary channel along that portion of Little Carrion Crow Bayou which enters Fourleague Bay at the location of the site. Undoubtedly, the site once rested atop this channel's natural levee prior to destruction by bay transgression.

Collection Review

McIntire's 1951 collection is presently housed at the LSU Museum of Geoscience (Catalogue No. 51-57), and was analyzed for this study (Table 7-7). As McIntire noted on his site form, most of the material was highly wave-washed and could only be classified as Baytown Plain. However, two sherds retained enough of their decoration to be recognized. Both suggest a Coles Creek period occupation, possibly midway in the period.

This latter suggestion is based on the sherd of Coles Creek Incised, which, in decoration, is most similar to the *Greenhouse* variety. However, the sherd is classed as *unspecified* since one of the requirements of *Greenhouse* is that it occur on paste equivalent to either the *Vicksburg* or *Little River* varieties of Baytown Plain, a characteristic lacking in this particular sherd.

Comments

From what little data are presently available, it is suggested that the Fourleague Bay site was occupied during middle Coles Creek times, approximately A.D. 850 to 1000.

BAYOU DU LARGE #8 (16 TR 24)

Location and Description

Located along the west bank of Bayou du Large, about midway between sites 16 TR 25 and 53, this site was reported by McIntire in August 1951. It then consisted of a small, mostly wave-washed shell midden, although a portion still was in place along the bank. A small collection of ceramics was obtained by McIntire, and, although not included in his 1958 ceramic analysis table, apparently enough cultural information was gathered to allow the site to be shown as a Plaquemine locale on his initial site-occupation map (McIntire 1958:Pl. 12). Neuman (1977:22) listed the locale only as a shell midden, while Weinstein and Gagliano (1985) did not discuss it.

Collection Review

McIntire's 1951 collection (Catalogue No. 51-62), now in storage at the LSU Museum of Geoscience, was analyzed for the present study (Table 7-8). While small, and at first glance not particularly enlightening, elements within the collection suggest that McIntire's assessment of a Plaquemine component was correct. For example, the two Baytown Plain rims are both from shallow bowls, more of a Plaquemine rather than Coles Creek vessel form. In fact, one

Table 7-7. Ceramic Counts and Percentages for the Fourleague Bay Site (16 TR 21), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain var <i>unspecified</i>	0	45	45	95.7	--
Coles Creek Incised var <i>unspecified</i>	1	0	1	2.1	50.0
Pontchartrain Check Stamped var <i>Pontchartrain</i>	1	0	1	2.1	50.0
Total	2	45	47	99.9	100.0

Table 7-8. Ceramic Counts and Percentages for the Bayou du Large #8 Site (16 TR 24), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	2	16	18	90.0	-
Coles Creek Incised <i>var. unspecified</i>	1	0	1	5.0	50.0
Unclassified incised on Baytown paste	0	1	1	5.0	50.0
Total	3	17	20	100.0	100.0

of the rims (see Figure 7-10, F) is from a vessel identical to what Phillips (1970:Fig. 101) has recognized as the Yazoo bowl, a vessel shape usually made of paste equivalent to the type Bell Plain. There can be no doubt, however, that the rim from 16 TR 24 is on Baytown paste.

The other hint of a Plaquemine component comes from the unclassified incised sherd which, although on Baytown paste, possesses a wide, U-shape incision similar to those found on Leland Incised. It seems probable that like many of the sites in the Terrebonne marsh region, 16 TR 24 once supported potters who, at some point, began to incorporate Plaquemine culture vessel forms and ceramic decorations into their indigenous technology, resulting in Plaquemine ceramics on a ware that today is recognized as Baytown Plain. Assuming this probability, it can then be hypothesized that the occupation of 16 TR 24 occurred quite early in the Mississippi period, as later, more typical Plaquemine wares are known from the region.

Comments

Based on the above discussion, it seems logical to assign a date of between A.D. 1200 and 1300 or 1400 to the site. As noted, as well, although the ceramics consist of Baytown wares, their forms and decoration suggest that the site's occupants were of the Plaquemine culture.

BAYOU DU LARGE #7 (16 TR 25)

Location and Description

This is another small shell midden first located by William G. McIntire in August 1951 (LDA site form). It is situated on the east bank of Bayou du Large, about 2.1 mi upstream from the junction of du Large and the channel leading to Mud Lake. In 1951 it was described as mostly destroyed.

McIntire (1958:Pl. 2) only shows the site on his general site-distribution map. Neuman (1977:22) only provides the fact that the site is a shell midden.

Collection Review

McIntire's modest collection is in storage at the LSU Museum of Geoscience (Cat. No. 51-63). Unfortunately, it is relatively nondescript, explaining why the site received such brief

treatment in McIntire's 1958 study. It consists of 36 body sherds and three rim sherds of Baytown Plain, *var. unspecified*.

SHELL POINT (16 TR 27)

Location and Description

Another site reported by William G. McIntire in August 1951, this wave-washed shell deposit is located along the north shore of Fourleague Bay about 1.3 mi south-southeast of the southern entrance to Creole Pass (LDA site form). This may be the "shelly point" noted by Cathcart in 1819 (see Chapter 3), particularly since modern quadrangle maps retain the name "Shell Point" for the locale, although, as suggested, it is more likely that Cathcart's shell point was situated on Halter's Island.

Whatever the case, another discrepancy occurs between McIntire's 1951 site form and his 1958 report. While the site form notes a completely wave-eroded site, the later report (McIntire 1958:Pl. 2) identifies the locale as a "shell mound." Having not visited the locale, the present study cannot offer a solution to the problem. Neuman (1977:22) notes only that the site is a shell midden. No cultural components are suggested by either McIntire or Neuman.

Smith et al. (1986:Pl. 47) show a Teche-Mississippi distributary channel entering Fourleague Bay about 0.2 mi north of the site, and it may be that the site once was associated with the channel's natural levee.

Collection Review

McIntire's 1951 collection is housed at the LSU Museum of Geoscience and was analyzed for the present study. Unfortunately, it consisted solely of 19 badly wave-eroded body sherds of Baytown Plain, *var. unspecified*.

Comments

About all one can say about this site is that it could have been occupied any time between the Marksville and early Mississippi periods.

RANGIA LAKE (16 TR 29)

Location and Description

This site was located in June 1952, by Orton and Woods, who described it as a relatively well-preserved shell midden at the junction of Bayou De Cade and Rangia Lake (LDA site form). The name of the latter waterbody must have been either a local term or one created by the finders, since no such lake is identified on any quadrangle maps of the area. The site location shown on maps at the Division of Archaeology places the locale along Bayou De Cade about 0.8 mi downstream from the southwestern end of Jug Lake. During the course of the present survey, while travelling to selected canals in the area, it was noted that no site existed in the Division's location, but, rather, there was a prominent *Rangia* midden located along the south bank of Bayou De Cade about 0.2 mi upstream. This latter midden undoubtedly is 16 TR 29. Although the survey team did not stop at the locale, it was able to estimate its extent along the bayou at approximately 1,300 ft. The site also is marked by the presence of several hunting or fishing camps and a few prominent live oaks.

McIntire (1958:Pl. 2) listed the site on his general distribution map, and may have shown it again on one of his initial site-occupation maps (Pl. 10). In the latter instance, the site is identified as Plaquemine. Phillips (1970:Fig. 447) illustrates Rangia Lake as a Bayou Petre site on his Mississippi period map, a placement almost certainly based on his access to McIntire's original sherd counts (although these counts were not published in McIntire's 1958 study). Neuman (1977:22) lists the site as a shell midden, but provides the additional information that the site had a "Troyville-Coles Creek" component. Weinstein and Gagliano (1985:Fig. 9), uncomfortable with Neuman's hyphenated culture period, listed the site simply as a Coles Creek locale.

As the site is situated atop the natural levee of what Smith et al. (1986:Pl. 54) identified as a Lafourche distributary related to today's Turtle Bayou, and since this distributary apparently was bisected by the later Marmande distributary channel of the Lafourche system (Smith et al. 1986:Pl. 50), the site offers the potential of deciphering the area's paleogeography at a relatively fine scale. Considering the conflicting cultural interpretations presented by McIntire, Phillips, Neuman, and Weinstein and Gagliano, the examination of Orton and Woods' ceramic collection became a necessity.

Collection Review

Happily for the present study, a relatively extensive collection from Rangia Lake is stored at the LSU Museum of Geoscience (Catalogue No. 52-136). How this important collection failed to make McIntire's (1958:Pl. 13) ceramic table is something of a mystery. McIntire's omission is exacerbated somewhat by the uniqueness of the collection (Table 7-9).

Initial occupation of the site appears to have taken place sometime late in the Marksville period. The sherds of *Churupa*, *Thornton*, and *Yokena* (Figure 7-11, C, D, and A, respectively) are excellent markers for that component. In addition, the sherd of Marksville Incised, *var. unspecified* (see Figure 7-11, B) undoubtedly belongs to this assemblage, but is somewhat unique and deserves special mention. It consists of zoned hatched areas set off by wide, U-shape lines on typical late Marksville ware similar to *var. Satartia* of Baytown Plain. At first, it was thought that this was a late variant of Mabin Stamped, but the hatched design is clearly incised, not stamped. Eventually, this decorative motif may allow for the creation of a new variety of Marksville Incised, but that will have to await additional examples.

Apparently there was a hiatus in site occupation equivalent to the Baytown period and most of the Coles Creek period, as the next ceramic evidence points to occupation during late Coles Creek times. Sherds of *Dupree*, *Harrison Bayou*, and *Manchac* (see Figure 7-11, E, F-G, and H, respectively) are almost certainly representative of this component, while those of *Little River* and *Plaquemine* (see Figure 7-11, I-J) may be associated, as well. The latter variety, however, may point to a sparse occupation of the Plaquemine culture during early to middle Mississippi times.

The final component present is the unique element at the site, and represents what is almost certainly a very late Mississippi occupation, possibly of the Mississippian culture. The sherds of Mississippi Plain and Cracker Road Incised, *var. Cracker Road* (see Figure 7-11, L-M) are the key constituents of the component. Brown (1985a:Tables 1, 2) places *Cracker Road* within the protohistoric and historic Natchez phase of the Natchez Bluffs region of Mississippi, and there is no reason to think differently in coastal Louisiana.

Comments

This important site provides evidence of occupation during late Marksville times (ca. A.D. 250 to 400), late Coles Creek times (ca. A.D. 1000 to 1200), possibly during early

Table 7-9. Ceramic Counts and Percentages for the Rangia Lake Site (16 TR 29), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Avoyelles Punctated <i>var. Dupree</i>	1	0	1	1.0	7.1
Baytown Plain <i>var. Little River</i>	1	0	1	1.0	--
<i>var. unspecified</i> (partial vessel)	6 (1)	71	77	80.2	--
Churupa Punctated <i>var. Churupa</i>	1	0	1	1.0	7.1
<i>var. Thornton</i>	1	0	1	1.0	7.1
Cracker Road Incised <i>var. Cracker Road</i>	1	1	2	2.1	14.3
Harrison Bayou Incised <i>var. Harrison Bayou</i>	1	1	2	2.1	14.3
Marksville Incised <i>var. Yokena</i>	1	0	1	1.0	7.1
<i>var. unspecified</i>	1	0	1	1.0	7.1
Mazique Incised <i>var. Manchac</i>	1	0	1	1.0	7.1
Mississippi Plain <i>var. unspecified</i>	1	4	4	4.2	--
Plaquemine Brushed <i>var. Plaquemine</i>	0	2	2	2.1	14.3
Unclassified incised on Baytown paste	0	1	1	1.0	7.1
on Mississippi paste	1	0	1	1.0	7.1
Total	16	80	96	99.7	99.7

to middle Mississippi times (ca. A.D. 1200 to 1500), and during late Mississippi times (ca. A.D. 1600 to 1750 or later). It most probably served as a moderate-size hamlet or small village during much of its use, although lack of site testing renders this assumption somewhat hypothetical.

JUG LAKE (16 TR 30)

Location and Description

This shell midden was recorded in June 1952 by Orton and Woods, who described it as being in a good state of preservation, although it had been partially damaged by wave action (LDA site form). It is located on the south bank of Jug Lake immediately west of the junction of the lake and Bayou De Cade. The site undoubtedly is associated with the now-subsidied natural levee of a channel which today incorporates both Turtle Bayou and a portion of Bayou De Cade, and has been identified by Smith et al. (1986:Pl. 54) as a Lafourche distributary.

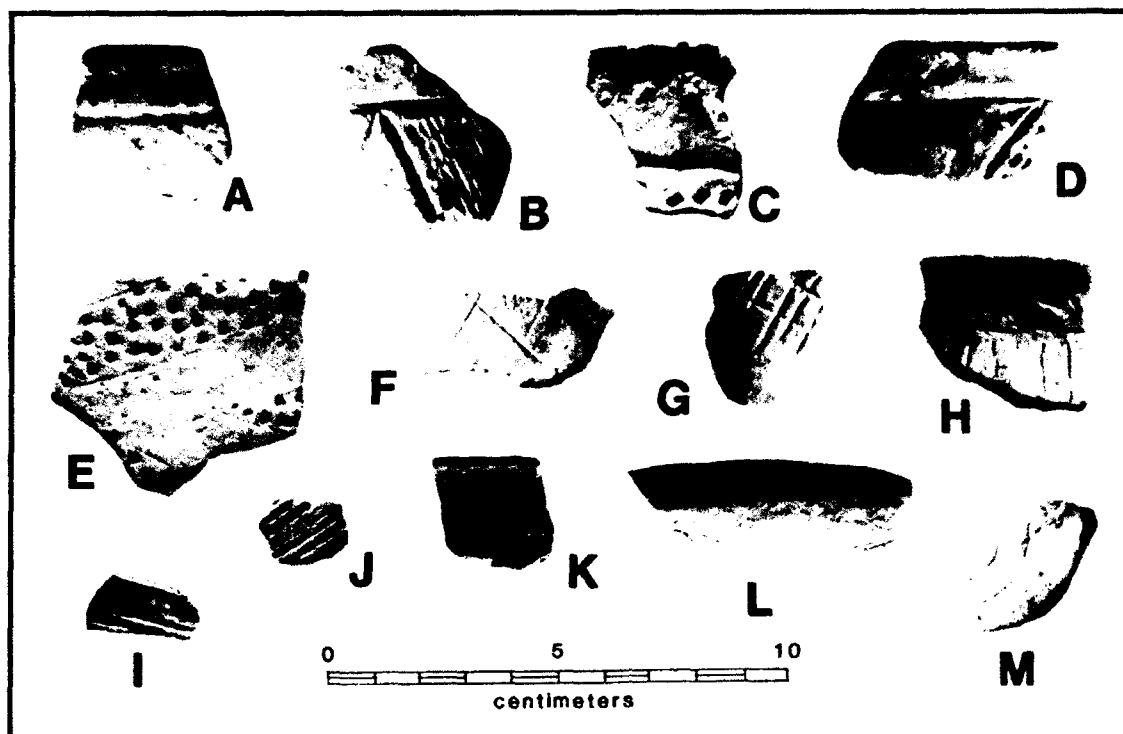


Figure 7-11. Aboriginal ceramics from Rangia Lake (16 TR 29). A) Marksville Incised, var. *Yokena*; B) Marksville Incised, var. *unspecified*; C) Churupa Punctated, var. *Churupa*; D) Churupa Punctated, var. *Thornton*; E) Avoyelles Punctated, var. *Dupree*; F-G) Harrison Bayou Incised, var. *Harrison Bayou*; H) Mazique Incised, var. *Manchac*; I-J) Plaquemine Brushed, var. *Plaquemine*; K) Unclassified incised on Mississippi paste; L-M) Cracker Road Incised, var. *Cracker Road*. (All from LSU collection.)

McIntire (1958:Pl. 2) incorporated the Orton and Woods information into his study, but only identified the site as a shell midden on his site-distribution map. Neuman (1977:22) presents the same limited information.

Collection Review

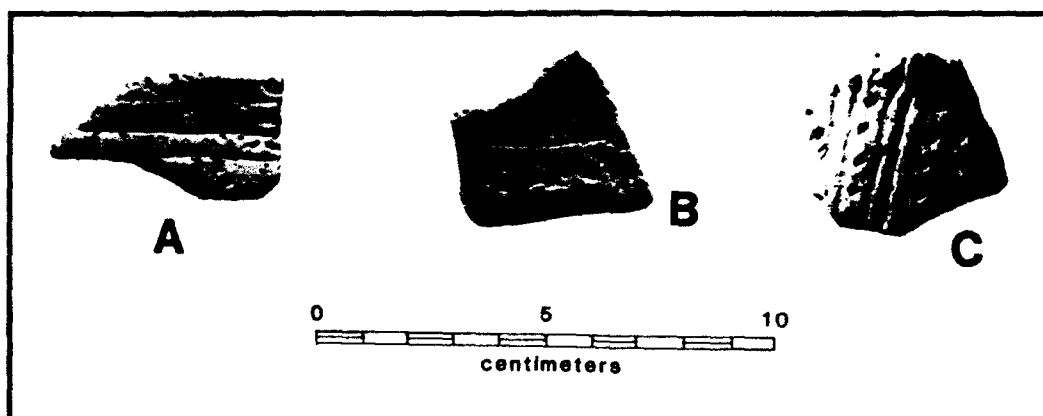
The original Orton and Woods collection is presently in storage at the LSU Museum of Geoscience and was analyzed for the present study (Catalogue No. 52-137). Table 7-10 presents the results of the ceramic analysis, while Figure 7-12 illustrates three of the diagnostic sherds from the collection.

The collection, though small, is obviously highly useful in identifying site components. Clearly, a strong Mississippian element is involved, represented by the sherds of Mississippi Plain, Mound Place Incised (see Figure 7-12, A), and var. *McIlhenny* of Owens Punctated (see Figure 7-12, B-C). A slightly earlier, probable Plaquemine component can be inferred from the two unclassified incised sherds. One consists of wide, U-shape, curvilinear lines and may represent a form of Leland Incised, while the other is made up of narrow, parallel lines which may be var. *Manchac* of the type Mazique Incised.

Also included in the collection are two pieces of fired clay which could be daub fragments.

Table 7-10. Ceramic Counts and Percentages for the Jug Lake Site (16 TR 30), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	0	1	1	14.3	--
Mississippi Plain <i>var. unspecified</i>	0	1	1	14.3	--
Mound Place Incised <i>var. unspecified</i>	1	0	1	14.3	20.0
Owens Punctated <i>var. McIlhenny</i>	0	2	2	28.6	40.0
Unclassified incised on Baytown paste	0	2	2	28.6	40.0
Total	1	6	7	100.1	100.0

Figure 7-12. Mississippi period ceramics from Jug Lake (16 TR 30). A) Mound Place Incised, *var. unspecified*; B-C) Owens Punctated, *var. McIlhenny*. (All from LSU collection.)

Comments

Despite the small collection, a relatively secure date range can be assigned to this site. The Mississippian component should have occurred between about A.D. 1500 and 1700, while the possible Plaquemine component could be a few hundred years earlier or less. The fact that daub may be present, as well, indicates that fairly permanent structures once stood at the locale. This suggests that sometime during the site's occupancy it served more as a hamlet or village than as a simple shellfish-collecting or fishing station.

PLUMB BAYOU (16 TR 36)

Location and Description

This site originally was recorded in 1952 by McIntire, Hawkins, and Warren. At that time it was described as a wave-washed beach deposit on the left bank of the mouth of Plumb

Bayou (LDA site form). Maps at the Louisiana Division of Archaeology, however, show the site stretching along the shore of Atchafalaya Bay from Plumb Bayou north to Palmetto Bayou. This latter location seems more accurate, as Smith et al. (1986:Pl. 47) show a Teche distributary channel hitting Atchafalaya Bay between Plumb and Palmetto bayous, and it is likely the site was once associated with the natural levees of this course.

McIntire (1958:Pl. 2) noted the site only as a beach deposit on his distribution map, while Neuman (1977:22) referred to it as a shell midden. Neither supplied any cultural information.

Weinstein and Gagliano (1985:143, Fig. 9) illustrate the site on their Coles Creek map of the Lafourche region, but this apparently is an error as no previous studies have reported Coles Creek material and those authors did not examine any collections.

Collection Review

A tiny collection of ceramics picked up during the 1952 site visit is now housed at the LSU Museum of Geoscience (Catalogue No. 52-352). The analysis of this material is presented in Table 7-11. Although small, the collection may represent a fairly homogeneous assemblage of the late Baytown period.

Bruly is believed to be the earliest variety of Mazique Incised yet identified (Weinstein et al. 1978:28-29), possibly extending back to the late Marksville period. *Pontchartrain* is a "super" variety that presently covers much of the Coles Creek period, with suggestions of a Baytown period affiliation as well (Wiseman et al. 1979). Taken together, a late Baytown component seems reasonable.

Comments

If the late Baytown time estimate is correct, then a date range of between A.D. 550 and 700 can be postulated for the Plumb Bayou site.

TELES ISLAND (16 TR 43)

Location and Description

This site reportedly was located by Randolph Bazet in 1923, apparently while it was being mined for its shell, and later was reported to William G. McIntire and Fred B. Kniffen in

Table 7-11. Ceramic Counts and Percentages for the Plumb Bayou Site (16 TR 36), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	0	7	7	77.8	--
Mazique Incised <i>var. Bruly</i>	1	0	1	11.1	50.0
Pontchartrain Check Stamped <i>var. Pontchartrain</i>	0	1	1	11.1	50.0
Total	1	8	9	100.1	100.0

August 1952. It was described as a "very large shell midden which has been dredged" (LDA site form), and reportedly was situated on "Teles Island just north of Marmande Ridge."

As with many of Bazet's sites, there is considerable confusion on the exact location of Teles Island. It is plotted on maps at the LDA in an area southwest of Lake Theriot, between a sharp bend in the Marmande Ridge natural levees. This is the location specified by the latitude and longitude coordinates provided by McIntire and Kniffen. As has become apparent during the course of the present study, however, these coordinates cannot be trusted, as they represent nothing more than McIntire's attempt at a "best-guess" location for the site. Apparently, Bazet was not particularly accurate in his locational descriptions, and most of his sites were not revisited by McIntire.

The name "Teles Island" does not appear on modern USGS quadrangle maps, nor on the 1935 7.5-min, Theriot, LA, quadrangle, thus providing no help in identifying the actual location. As noted earlier, during the course of the present study, an airboat was used to visit hard-to-reach sites. On one occasion, while heading to 16 TR 49, a short side trip was taken to the plotted location of 16 TR 43. Unfortunately, nothing but marsh and young willows could be found.

With these facts in mind, the site form and 1935 quadrangle map were examined once again. The map shows a large "pond" in the marsh at the east end of a canal leading eastward from Minors Canal just south of Marmande Ridge. This pond is at roughly the same latitude as that given for 16 TR 43, but is about 2.25 mi to the east. The airboat was then used to visit the new pond location. As expected, the pond turned out to be the remains of a massive series of dredged shell middens. Spoil banks ringing the pond were covered with *Rangia* shell, and a camp was situated on the eastern edge of the eastern arm of the pond. Time did not allow for a careful search of the spoil, so no artifacts were found. There can be no doubt, however, that this is the true location of 16 TR 43. In fact, three other "ponds" or "shell pits" are located southwest of 16 TR 43, one of which previously had been given site number 16 TR 158. One of the unnumbered ponds is connected to 16 TR 43 by a small canal, undoubtedly dug to allow access for mining, while 16 TR 158 and the other unnumbered site are connected to one another by another access canal which extends southeast from Minors canal at a point about 0.4 mi south-southwest of 16 TR 69 on Marmande Ridge. All of these additional locales were visited and all contained *Rangia* shells scattered in fringing spoil piles. They clearly represent additional sites that had been dredged for shell. There is no doubt, however, that the revised location of 16 TR 43 is at the largest and most obvious of these sites, and it would have been the one visited by Bazet.

With the location of 16 TR 43 finally determined, it now is possible to relate the site to the relict channels identified by Smith et al. (1986:Pl. 50). Thus, those authors suggest that the site is situated on a Lafourche distributary channel that emanates from the direction of Bayou du Large, but does not actually derive from the latter course. This channel, or series of channels, is most likely similar to, if not the same as, the probable Teche-age channel noted in the discussions concerning the Bayou du Large/Marmande Plantation (16 TR 19), Bois d'Arc #1 (16 TR 211) and Bois d'Arc #2 (16 TR 212) sites. The other nearby dredged sites also appear related to this series of channels. Thus, the potential for relatively early aboriginal components should be considered high.

In this regard, McIntire and Kniffen may have received two collections of material from Bazet (at least there are two catalogue numbers recorded on the LDA site form). It is possible, however, as will be seen below, that only one collection actually is involved, but that it was mistakenly catalogued twice. Whatever the case, McIntire (1958:Pls. 2, 6, 8, 12, 13) listed the site as a shell midden with both a Troyville period initial occupation and a subsequent Coles Creek period component. Neuman (1977) for some unknown reason, does not record the site.

Weinstein and Gagliano (1985:141, Figs. 7, 9), on the other hand, identified the site as a Marksville period initial-occupation locale, based on McIntire's (1958:Pl. 13) listing of the type Yokena Incised. They did, however, retain the Coles Creek component.

Collection Review

McIntire (1958:Pl. 13) provided the following list of ceramics from the Teles Island site:

<i>Type</i>	<i>Percentage</i>
Pontchartrain Check Stamped	10.0
French Fork Incised	60.0
Woodville Red Filmed	10.0
Mazique Incised	10.0
Yokena Incised	10.0

This seemingly would suggest six sherds of French Fork Incised and one sherd each of the other types.

In order to assess the accuracy of the above interpretations, the original 1923 Bazet collection (Catalogue No. 53-449) was relocated at the LSU Museum of Geoscience. The other possible collection (Catalogue No. 52-359) could not be relocated, suggesting that it either was returned to Bazet or does not exist. Since the collection at LSU is clearly the one McIntire analyzed, it seems unlikely that there ever was another collection. More probably, as noted, the same collection simply was given two numbers. In any event, the results of the reanalysis of Bazet's 1923 collection is presented in Table 7-12, while selected artifacts are illustrated in Figure 7-13. The most obvious difference is the change of McIntire's Yokena Incised to Leland Incised, *var. unspecified* (see Figure 7-13, H). This inability on the part of McIntire to sort Leland from Marksville Incised has been noted on several occasions during the present study, and is one of the major shortcomings of his analysis. The Leland sherd itself could possibly be *var. Russell*, as its incisions were done in a leather-hard paste and then smoothed over in some cases. The paste, however, is Baytown, rather than Addis, necessitating the unspecified identification. Interestingly, someone, perhaps McIntire, had written "Taylor Engraved" on the interior of the sherd.

Other differences include the change of McIntire's Woodville Red Filmed to one of the *unspecified* sherds of French Fork Incised (see Figure 7-13, B). It is easy to see why McIntire identified the sherd as Woodville, since it consists of decoration on the interior of a shallow bowl. However, this decoration does not contain any red film, tick marks, or other typical Woodville elements, but, rather, consists of a design equivalent to French Fork Incised, *var. Brashear*. The fact that this French Fork design occurs on the interior of a bowl has led to its current *unspecified* classification.

Aside from the other two sherds currently identified as French Fork Incised (see Figure 7-13, A and C), it is difficult to find McIntire's six sherds of that type. One may be the unclassified punctated specimen, which would bring the total to three, but there are no other conceivable equivalents. Since McIntire did not record the sherds of *Stanton* (see Figure 7-13, G) and *Plaquemine*, these may have been part of his French Fork group, but that seems unlikely. Perhaps sherds have been removed or misplaced over the years, thus leading to the present discrepancies.

Whatever the case, there is little doubt that the collection from Teles Island indicates a strong initial occupation during the Baytown period. The sherds of *Bruly* (see Figure 7-13,

Table 7-12. Ceramic Counts and Percentages for the Teles Island Site (16 TR 43), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain					
var. <i>Troyville</i>	2	0	2	2.9	--
var. <i>unspecified</i>	7	50	57	83.8	--
Fatherland Incised					
var. <i>Stanton</i>	1	0	1	1.5	11.1
French Fork Incised					
var. <i>Brashear</i>	1	0	1	1.5	11.1
var. <i>unspecified</i>	2	0	2	2.9	22.2
Leland Incised					
var. <i>unspecified</i>	1	0	1	1.5	11.1
Mazique Incised					
var. <i>Bruly</i>	1	0	1	1.5	11.1
Plaquemine Brushed					
var. <i>Plaquemine</i>	0	1	1	1.5	11.1
Pontchartrain Check Stamped					
var. <i>unspecified</i>	0	1	1	1.5	11.1
Unclassified punctated on Baytown paste	0	1	1	1.5	11.1
Total	15	53	68	100.1	99.9

D), *Troyville* (see Figure 7-13, E-F), and French Fork Incised, coupled with a lack of Coles Creek period ceramics, is ample evidence. The fact that red-filmed sherds are lacking from the assemblage would suggest further that the occupation was late in the Baytown period.

The Baytown occupation apparently was followed by a hiatus equivalent to the entire Coles Creek period, and the site was reoccupied again during the early Mississippi period by people using the *Plaquemine* and Leland Incised sherds. The *Stanton* sherd may also be a part of this assemblage, as its paste appears more in line with Baytown rather than Addis. On the other hand, it might be the sole representative of a slightly later middle to late Mississippi period occupation.

Comments

Teles Island was once a large and impressive set of shell middens. Unfortunately, it has been all but destroyed by past shell-mining operations. Based on the ceramics recovered by Bazet, it would appear to have been initially occupied during late Baytown times (ca. A.D. 550 to 700) by Indians of a *Troyville*-like culture, with a subsequent, somewhat lesser occupation during the early Mississippi period (ca. A.D. 1200 to 1400) by people of the *Plaquemine* culture.

Whether the site contained a village or small hamlet is open to question. Considering its size, and the presence of a pyramidal mound at what may have been a similar site (16 TR 49) located to the west, such a possibility gains support.

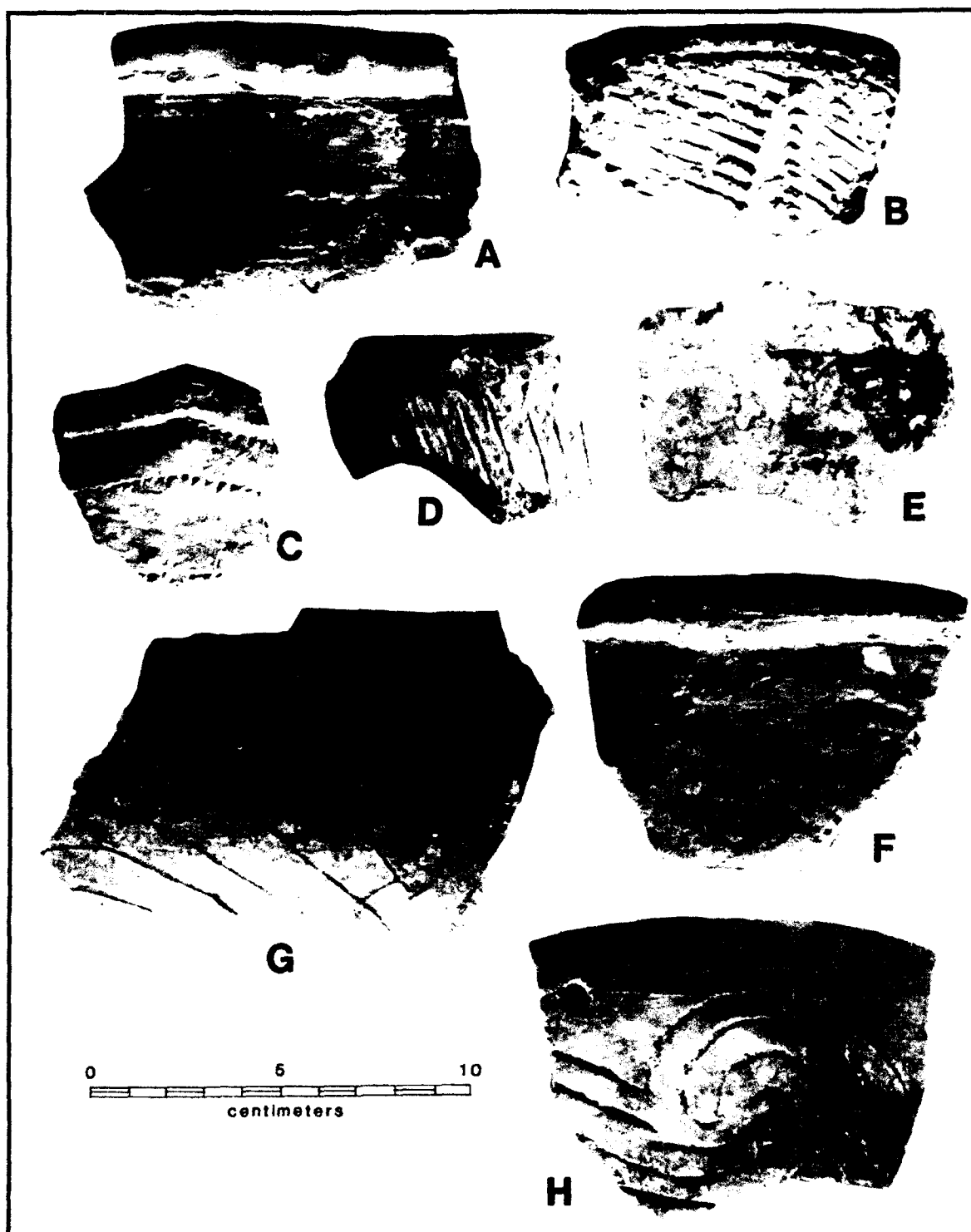


Figure 7-13. Aboriginal ceramics from Teles Island (16 TR 43). A) French Fork Incised, *var. Brashear*; B) French Fork Incised, *var. unspecified* (*Brashear* design on interior of shallow bowl); C) French Fork Incised, *var. unspecified* (on shallow bowl with triangular peaks); D) Mazique Incised, *var. Bruly*; E-F) Baytown Plain, *var. Troyville*; G) Fatherland Incised, *var. Stanton*; H) Leland Incised, *var. unspecified*. (All from LSU collection.)

BAYOU DU LARGE (16 TR 53)

Location and Description

Originally located in July 1952 by McIntire, this shell midden is situated on the east bank of Bayou du Large about 1.3 mi upstream from the confluence of the bayou and the pass leading into Mud Lake. In 1952 it stretched about 40 ft along the bank and was about 1.5 ft thick. Despite the latter measurement, it was reported as mostly destroyed (LDA site form). Both McIntire (1958:Pl. 2) and Neuman (1977:23) refer to the site only as a shell midden.

Collection Review

McIntire's 1952 collection is now stored in the LSU Museum of Geoscience and was analyzed for the present project (Catalogue No. 52-372). Unfortunately, it has little to offer, consisting of three body sherds and one round base sherd of Baytown Plain, *var. unspecified*, and one rim sherd of what may be Baytown Plain, *var. Troyville* (Figure 7-14, A). If the latter identification is correct, then a Baytown period component, at least, can be assumed.

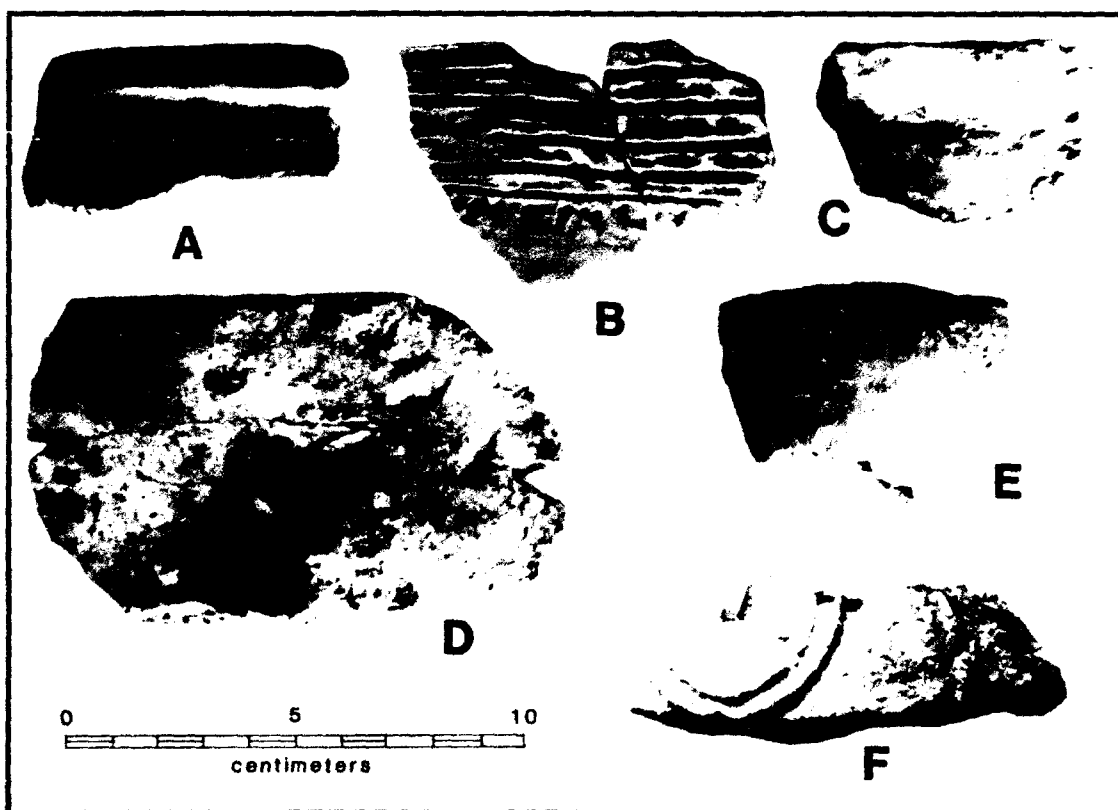


Figure 7-14. Aboriginal ceramics from two of the Bayou du Large sites (16 TR 53 and 54) and Bayou Mauvais Bois (16 TR 70). A) Baytown Plain, *var. Troyville* (?) (16 TR 53); B) Coles Creek Incised, *var. Hardy* (16 TR 54); C-E) Baytown Plain, *var. Marksville* (D is on the line between Tchefuncte and Baytown Plain) (16 TR 70); F) Marksville Incised, *var. Sunflower* (16 TR 70). (All from LSU collections.)

Comments

The one possible component recognized in the small collection suggests the site may date somewhere within the A.D. 400 to 700 range.

BAYOU DU LARGE (16 TR 54)

Location and Description

Another shell midden first recorded by McIntire in July 1952, this site is situated along the east bank of Bayou du Large about 0.75 mi upstream from the junction of the bayou and the pass leading into Mud Lake. In 1952 it was described as "small" and mostly destroyed (LDA site form).

Although McIntire (1958) does not present any ceramic data from the site, it is shown on his initial site-occupation map (Pl. 12) as a Plaquemine locale. Neuman (1977:23) lists the site only as a shell midden, while Weinstein and Gagliano (1985) do not discuss it.

Collection Review

The original McIntire collection is currently in storage at the LSU Museum of Geoscience (Catalogue No. 52-373), and was examined for this study. Although consisting only of 10 sherds, the sample confirms McIntire's (1958:Pl. 12) Plaquemine assignment (Table 7-13). The two sherds of *Hardy* (see Figure 7-14, B) are from the same vessel, fit together, and are characterized by very deep, sloppily executed incised lines below which are equally deep wedge-shape punctations. The unclassified incised sherd is marked by a very narrow incision that may be from a vessel of Fatherland Incised.

Comments

While *Hardy* can date from transitional Coles Creek times up to late Mississippi, Fatherland Incised is a relatively late Mississippi period marker. Based on the limited data on hand, however, it is not possible to provide anything other than a "ballpark" estimate of the site's age. Therefore, we are no better off now than McIntire was 30 years ago when he simply identified a Plaquemine component.

EAGLE LAKE (16 TR 58)

Location and Description

Originally discovered by Randolph Bazet, this site was recorded by McIntire in July 1952 (LDA site form). Lake Pagie once was known as Eagle Lake, so, despite the site's name and the relative proximity of another Eagle Lake shown on the 1974, Lost Lake, LA, 7.5-min quadrangle, this site actually is situated along the southeast shore of Lake Pagie approximately 0.5 mi northeast of the entrance to Bayou Chevreau. The only data supplied by both McIntire (1958:Pl. 2) and Neuman (1977:23) is that the locale is a shell midden.

During the present study, while examining the Lake Pagie site (16 TR 28), one of the survey teams made a quick visit to the Eagle Lake site. Today it is composed of a completely wave-washed beach deposit of *Rangia* shell, extending approximately 600 ft along the lake edge and about 6 to 10 ft wide. The shell apparently has retarded lake-edge erosion in the area, and a small and a small projection of marsh extending about 200 ft into the lake has been preserved east of the site.

Table 7-13. Ceramic Counts and Percentages for the Bayou du Large Site (16 TR 54), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	0	6	6	60.0	--
Coles Creek Incised <i>var. Hardy</i>	0	2	2	20.0	50.0
Unclassified incised on Baytown paste	0	1	1	10.0	25.0
Unclassified punctated on Baytown paste	0	1	1	10.0	25.0
Total	0	10	10	100.0	100.0

Smith et al. (1986:Pl. 54) illustrate a Lafourche distributary channel entering Lake Pagie from the east at the southern end of the site, suggesting that the midden once rested atop the channel's natural levee. This channel actually is a continuation of the Small Bayou La Pointe distributary which leaves Bayou du Large just south of the junction of du Large and Falgout Canal (Smith et al. 1986:Pl. 50).

Collection Review

The 1952 collection is presently housed at the LSU Museum of Geoscience (Catalogue No. 52-377), and was analyzed for the present study. In addition, a small quantity of ceramics was obtained during the brief visit by the CEI survey party. These collections have been combined in Table 7-14.

Comments

While not particularly enlightening, the ceramics suggest either a transitional Coles Creek or early to middle Plaquemine component, followed by a late Mississippi period occupation. Thus, a relatively broad time range of A.D. 1000 to 1700 can be postulated.

BAYOU MAUVAIS BOIS (16 TR 70)

Location and Description

There is considerable confusion regarding the location of this site. It was reported to McIntire by Randolph Bazet in June 1953, although the latter apparently had known of it for some time previously. McIntire does not seem to have visited the locale, but provided a best-guess estimate of its location. It is described as a dredged shell midden situated about 2 mi west of Lake Hatch on Bayou Mauvais Bois (LDA site form).

The site location shown on LDA maps is along the east bank of an old oil-field canal in the Lake Hatch Oil and Gas Field, where the canal cuts through Bayou Mauvais Bois, about 1.65 mi north-northwest of Lake Theriot and about 2 mi south-southwest of Lake Hatch. By chance, this same canal was surveyed during the present study as part of high-probability Unit 34. In this instance, because boat access was blocked by a closure dam, the survey crew

Table 7-14. Ceramic Counts and Percentages for the Eagle Lake Site (16 TR 58), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain <i>var. unspecified</i>	6	41	47	94.0	--
Coles Creek Incised <i>var. Hardy</i>	1	0	1	2.0	50.0
Evansville Punctated <i>var. unspecified</i>	0	1	1	2.0	50.0
Mississippi Plain <i>var. unspecified</i>	0	1	1	2.0	--
Total	7	43	50	100.0	100.0

carefully walked the spoil banks on both sides of the canal, and paid particular attention to that portion which cut through the Mauvais Bois natural levees. The spoil banks were relatively clear of understory vegetation, and visibility was considered good. However, not a single shell on any other potential site indicator could be found.

The lack of success at the LDA location prompted a reassessment of the site's true location. It was then noted that the latitude coordinates given on the site form placed the site about 1 mi farther south than the map location, although the longitude coordinates matched the LDA position. A review of both black and white and infrared aerial photographs of the new location again failed to provide any possible site location. However, these same photographs do show six apparently dredged shell middens in the marsh beginning about 0.8 mi west of Lake Theriot and extending in a northwesterly direction from there for about 1.9 mi. Another dredged site is also present along the large bend of Bayou Mauvais Bois, while Congo Island is situated along the same line as the dredged sites. Congo Island has not been dredged, however, although it would appear to be a prime shell midden candidate. Perhaps it contains a historic cemetery, or a past habitation, and was not mined for that reason. All of these probable sites are connected by a series of small access canals dug to allow the sites to be mined.

While it is uncertain which of these probable sites is 16 TR 70, it seems almost certain that one of them is that locale. In fact, the latitude of the northernmost of these sites matches quite closely that given on the LDA site form. Apparently, Bazet knew of these sites, which probably had been mined in the 1930s or '40s, and related the information on to McIntire. Unfortunately, the location was not presented or recorded accurately, and this has led to the subsequent confusion. This is unfortunate, as the ceramics from the site are quite important in unravelling the paleogeography of the region.

McIntire (1958:Pls. 2, 5) illustrated the site on both his general site-distribution map and his Troyville period initial occupation map. He does not, however, provide any ceramic data to back up such an assignment (McIntire 1958:Pl. 13). Neuman (1977:23), apparently following McIntire, lists the site as a Troyville-Coles Creek period shell midden. Weinstein and Gagliano (1985:Fig. 9), unhappy with Neuman's hyphenated culture period, simply listed the locale as a Coles Creek period initial-occupation site. As will be seen, all of these assessments are wrong.

Collection Review

Happily for the present study, the original collection obtained by Bazet and used by McIntire to suggest a Troyville period occupation is now housed at the LSU Museum of Geoscience (Catalogue No. 53-438). It was reanalyzed for the present study, and results are provided in Table 7-15. Although only 17 sherds are present in the collection, it is one of the most useful of all those analyzed. What is almost certainly a very, very early Marksville occupation can be postulated. This is evident by the fact that several of the sherds of Baytown Plain, *var. Marksville* are highly laminated and have pitted exterior surfaces (see Figure 7-14, D). If not for the presence of obvious grog tempering, they could easily be classed as Tchefuncte Plain. All three of the *Marksville* rims (see Figure 7-14, C and E) are of interest. One is off a jar, another is off a shallow bowl, while the third is from a beaker. Additionally, the sherd of *Sunflower* (see Figure 7-14, F) is typical of such an early Marksville variety, while many of the *unspecified* examples of Baytown Plain could be *Marksville*. Overall, the ceramics suggest a time right on the line between the Tchula and Marksville periods, and are some of the best examples yet seen of one type of ware grading into another.

The fact that such an early occupation is present brings up the question of channel association. Although hampered by an uncertain site location, it seems apparent that 16 TR 70 was one of the dredged sites west of Lake Theriot. Thus, one of two possible channel associations can be offered. First, at least three of these sites, including the possible location for 16 TR 70, are situated in a line parallel and slightly east of a prominent channel scar, now occupied in part by Bayou Cocodrie, which Smith et al. (1986:Pls. 43, 49) identify as a Teche distributary. The sites may be situated on the backslope of the now-subsided natural levee of this course. The second possibility, and one somewhat substantiated by additional archeological data, is that the dredged sites are associated with a series of minor distributary channels which Smith et al. (1986:Pls. 44, 50) identify as Lafourche distributaries. At least one of these channels can be traced northward in an almost unbroken line to present-day Bayou Black, about 2.1 mi northwest of the community of Waterproof. Importantly, this is the same channel along which the St. Paul Bayou site (16 TR 60) is located. As reported earlier, that site yielded another very early Marksville period ceramic assemblage, along with one sherd of Tchefuncte Plain. Thus, it would seem that the Lafourche distributary channels identified by Smith et al. in this area are actually earlier Teche distributaries, and that additional Tchula and early Marksville period sites should be associated with them.

Comments

Clearly, this is one of the more intriguing of those sites whose collections were reanalyzed. The fact that it was occupied very early in the Marksville period (ca. A.D. 1 to A.D. 50 or 100) is important for any paleogeographical reconstruction of the area. Unfortunately, not knowing the site's exact location reduces its present importance.

BAYOU DU LARGE/OLD BRIDGE (16 TR 71)

Location and Description

This is another site recorded by McIntire in 1953, based on information supplied by Bazet. It was described then as a "midden" on the west bank of Bayou du Large, about 1/3 mi southwest of Falgout Canal (LDA site form). McIntire obtained Bazet's collection of material from the site, and used that to identify the locale as an initial-occupation, Plaquemine shell midden on several maps in his 1958 study (McIntire 1958:Pls. 2, 8, 12, 13). As will be seen below, this interpretation was correct.

Table 7-15. Ceramic Counts and Percentages for the Bayou Mauvais Bois Site (16 TR 70), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain					
var. Marksville	3	5	8	47.1	--
var. unspecified	0	8	8	47.1	--
Marksville Incised					
var. Sunflower	1	1	1	5.9	100.0
Total	3	14	17	100.1	100.0

Following McIntire, Neuman (1977:23) listed the site simply as a Plaquemine shell midden, while Weinstein and Gagliano (1985:Pl. 10) identified it as a Mississippi period locale. None of these investigators visited the site, however. It was Altschul (1978:109-112), though, who did revisit the locale as part of his sewerline survey. He made a small surface collection, cleared a profile along the bank of Bayou du Large, and took core samples at 10-m intervals along the bank. His work revealed a buried shell lens, composed primarily of oyster, located between 55 and 71 cm below the ground surface. No aboriginal material could be found in the lens; only one iron nail came from near the base of the deposit. This, coupled with statements reportedly made by a local informant, Norman Frederick, led Altschul to believe that the shell lens was related to a roadbed which once led to an old bridge, now removed. Thus, Altschul suggested that McIntire's site represented nothing more than redeposited midden remains.

Regardless of the above possibility, Altschul's (1978:Table 16) surface collection is of interest. Aboriginal remains included 28 plain body sherds, of which one was identified as Baytown Plain; two sherds of Coles Creek Incised, var. *Hardy*; and one sherd of Maddox Engraved, var. *Baptiste*. Historic ceramics included one sherd each of pearlware and a feather-edge design, and two sherds of "mochaware." While it is uncertain if these identifications are correct, given the problems previously discussed regarding Altschul's historic ceramic analysis, they may point to a possible late-eighteenth- or early-nineteenth-century component. In fact, as will be seen, this may be a case where some of the aboriginal sherds and the historic pottery are part of the same occupation.

The site area was revisited again during the current project, as it occurred just north of Terrestrial Transect 57. No artifacts were found, and only a few shells were present to mark the former site location. Norman Frederick, who lives near the site, was interviewed once more. He noted that there never was another old bridge location, but that the present bridge is in the same place as the old one. He also stated that the bank of du Large had eroded back about 15 to 20 ft in the past eight years, and that almost all evidence of the site was gone (Figure 7-15). From this, then, it appears that the shell lens was, in fact, in its primary location. The presence of a nail in the lens could indicate either post-occupational disturbance, or an association with the actual midden.

The possibility of the shell lens being a primary deposit is also supported by the site's location. It is situated right at the point where the Small Bayou La Pointe distributary channel left the du Large course, an ideal habitation locale that would have provided the site's occupants with easy access to both sets of natural levees and adjacent wetland environments. Both du Large and Small Bayou La Pointe have been identified as Lafourche-age distributaries by Smith et al. (1986:Pl. 50).



Figure 7-15. Eroded bankline of Bayou du Large at the Bayou du Large/Old Bridge site (16 TR 71). Looking to the northwest. Date: 11/25/86.

Collection Review

As noted above, Bazet had given McIntire his collection from 16 TR 71. McIntire's (1958:Pl. 13) analysis is as follows:

<i>Type</i>	<i>Percentage</i>
Moundville Type	33.3
Maddox Incised	33.3
Piaquemine Brushed	33.3

This collection was relocated at the LSU Museum of Geoscience (Catalogue No. 53-441), was reanalyzed for the present study, and is presented in Table 7-16. Selected sherds are shown in Figure 7-16. Obviously, there is a lot more to the collection than McIntire would lead one to believe, although his estimate of site age was quite accurate.

When the LSU material is combined with that presented by Altschul (see above), it appears that two probable components are present. The first is late within the Coles Creek period, possibly right on the line with the early Mississippi period. It includes Altschul's sherd of *Hardy*, and the LSU sherds of *Manchac*, *Little River*, and probably the *unspecified* examples of Baytown Plain. Of interest are several of the *Little River* specimens which have highly polished interiors, suggesting use as bowls, and one rim sherd with a thickened interior lip (see Figure 7-16, A), also from a shallow bowl. The *Manchac* sherd is from a beaker or jar with the decoration occurring below a thickened rim (see Figure 7-16, B).

Table 7-16. Ceramic Counts and Percentages for the Bayou du Large/Old Bridge Site (16 TR 71), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Addis Plain var. <i>Addis</i>	5	19	24	45.3	--
Baytown Plain var. <i>Little River</i>	1	6	7	13.2	--
var. <i>unspecified</i> (effigy-vessel tail)	2 (1)	12	14	26.4	--
Bell Plain var. <i>unspecified</i>	0	1	1	1.9	--
Fatherland Incised var. <i>Stanton</i>	0	1	1	1.9	14.3
Leland Incised var. <i>Russell</i> (?)	1	0	1	1.9	14.3
Maddox Engraved var. <i>Emerald</i>	1	0	1	1.9	14.3
Mazique Incised var. <i>Manchac</i>	1	0	1	1.9	14.3
Owens Punctated var. <i>McIlhenny</i>	1	0	1	1.9	14.3
Plaquemine Brushed var. <i>Plaquemine</i>	1	0	1	1.9	14.3
Unclassified incised on Baytown paste	0	1	1	1.9	14.3
Total	13	40	53	100.1	100.1

The next component would seem to be quite late, possibly extending into historic times if the pearlware, mochoware, and feather-edge sherds reported by Altschul are identified correctly and are part of this component. The aboriginal sherds related to this component apparently include the remainder of the LSU specimens. Of these, the *Addis* sherds have a very compact, well-made paste, three of which are from a Natchezan-style carinated bowl with an incised line atop the lip (see Figure 7-16, E). The *Emerald* sherd is from a hemispherical bowl and has very shallow decorative lines that are barely visible (see Figure 7-16, D). The possible *Russell* sherd is perhaps a bit too well made for that variety (see Figure 7-16, H), but it does not fit any other particular variety, so *Russell* seems the best estimate at this point. The *McIlhenny* and *Stanton* sherds (see Figures 7-16, G and F, respectively) are good examples of their respective varieties. The *McIlhenny* sherd may also be the "Moundville Type" reported by McIntire.

Overall, the general impression left by the items in this latter component is that they represent one of the best Delta Natchezan assemblages yet seen in collections from the region. Given that they may be associated with late-eighteenth- or early-nineteenth-century European artifacts, then the site could have been the locus of a small Houma house site or settlement.

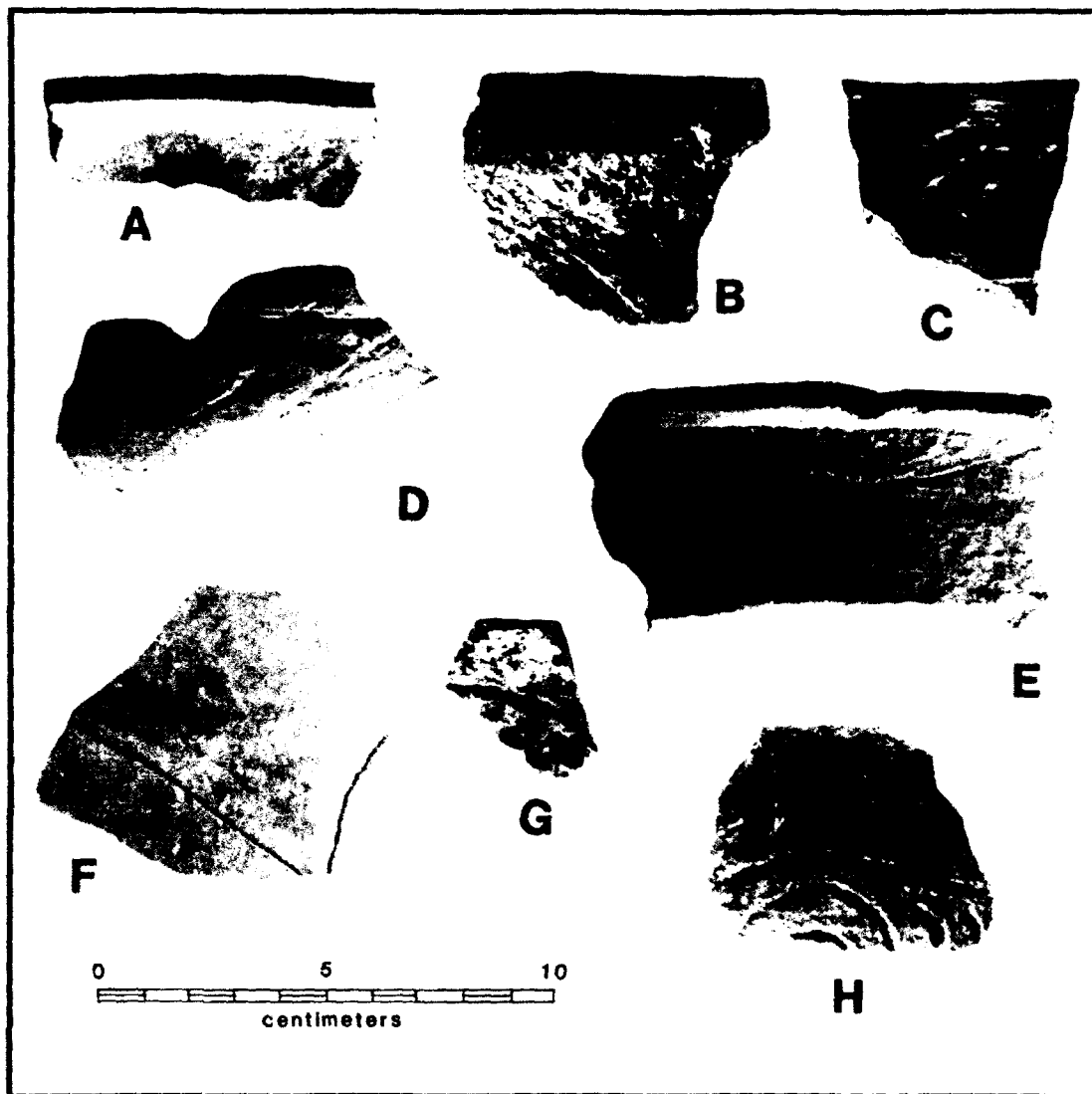


Figure 7-16. Aboriginal ceramics from Bayou du Large/Old Bridge (16 TR 71). A) Baytown Plain, var. *Little River* (interior of shallow bowl); B) Mazique Incised, var. *Manchac*; C) Plaquemine Brushed, var. *Plaquemine*; D) Maddox Engraved, var. *Emerald*; E) Addis Plain, var. *Addis* (from Natchezan-style carinated bowl); F) Fatherland Incised, var. *Stanton*; G) Owens Punctated, var. *McIlhenny*; H) Leland Incised, var. *Russell* (?). (All from LSU collection.)

Comments

If this site is a primary deposit, as it now would seem to be, then it can be equated with occupations of the very late Coles Creek period (ca. A.D. 1100 to 1200) and the very late, protohistoric or historic period (ca. A.D. 1600 to 1800). If the latter, it could represent one of the Houma settlements after that aboriginal group began migrating to Terrebonne Parish in the 1770s.

WATERPROOF POINT (16 TR 73)

Location and Description

This is another important site originally reported in 1953 by McIntire on data supplied by Bazet. Unfortunately, as with others of this ilk, the site's exact location was inaccurately recorded, and this has led to numerous problems over the years. A brief review of the sequence of events seems in order.

When McIntire filed his 1953 site card, he described Waterproof Point as a shell midden located about 1 mi south of Bayou Black "on" Waterproof Point (LDA site form). Obviously, this was a best-guess estimate of the location, as he apparently had never been there. The site then was illustrated at its Waterproof Point location on several of the maps provided in his 1958 study. Subsequent investigators (Neuman 1977; Phillips 1970; Gagliano et al. 1975) likewise showed the site at that location.

It was not until Altschul (1978:137) attempted to revisit the site in conjunction with his sewerline survey, that locational problems were realized. Altschul interviewed Bazet while at Houma and was told that the site was a dredged midden, mined by the highway department, and located about 1 mi (actually 1.4 mi) south of the GIWW and 0.5 mi east of Lake Hatch. Bazet apparently had given McIntire the wrong location over 20 years earlier (Altschul 1978:137). Altschul attempted to reach the new location, but was blocked by a fenced-off canal. He did, however, show the proper location on his site map of the area (Altschul 1978:Fig. 48). Unfortunately, neither members of the LDA nor Weinstein and Gagliano (1985) took note of Altschul's updated locational information, and the site continued to be shown in McIntire's erroneous location.

During the present research, one of the CEI survey crews was informed of a large, dredged site, locally known as the "shell pit," situated along a canal east of Lake Hatch. Upon subsequent comparison of this information with that supplied by Altschul, it was determined that the dredged site and 16 TR 73 were one and the same. This information then was passed on to the LDA, and the proper site location finally was recorded.

Identifying the proper location is significant, as the site now can be equated with the natural levees of a subsided channel that Smith et al. (1986:Pl. 44) suggest is a Lafourche-age distributary emanating from Waterproof Point. As noted earlier, Waterproof Point was supposedly formed by the combined natural levees of Teche and Lafourche distributary channels (Smith et al. 1986:Pl. 44). Thus, the potential exists for relatively early occupation at the site.

In that light, the original data supplied by McIntire need to be reviewed. In addition to placing the site on his general site-distribution map (McIntire 1958:Pl. 2), McIntire (1958:Pls. 4, 5, 7, 8, 12, 13) also shows the locale on his Marksville through Coles Creek occupation maps, and his maps illustrating sites with French Fork and check-stamped pottery. As noted previously under the discussion of Mandalay Plantation (16 TR 1), McIntire (1958:64) also made brief mention of the site in regard to its relation to the Teche-Mississippi. He erroneously noted, however, that the artifacts acquired by Bazet came from plowed fields. We know now that this was not the case.

In any event, McIntire (1958:Pl. 13) presented the site's ceramics as follows:

<i>Type</i>	<i>Percentage</i>
Australia Interior Incised	4.3
Maddox Incised	8.7
Harrison Bayou Incised	8.7

Type	Percentage
Plaquemine Brushed	17.4
Coles Creek Incised	13.1
Pontchartrain Check Stamped	4.3
French Fork Incised	8.7
Mazique Incised	17.4
Marksville Incised	17.4

It is clear from this that the major occupation is relatively late, represented by a Plaquemine component, with only a few sherds each indicative of the previous culture periods. As will be seen, this interpretation still is correct. In fact, once the material was reanalyzed, it is the late component which grows in strength at the expense of the earlier ones.

Collection Review

The original Bazet collection (Catalogue No. 53-443) was relocated at the LSU Museum of Geoscience and its updated analysis is provided in Table 7-17. Selected artifacts from the collection are illustrated in Figures 7-17 and 7-18. As noted, the strongest component present is that related to the Plaquemine culture. It is marked by the sherds of Addis Plain, L'Eau Noire Incised (see Figure 7-18, F), Leland Incised (see Figure 7-18, B-E), Maddox Engraved (see Figure 7-18, G-H), Plaquemine Brushed (see Figure 7-17, K-M), and the unclassified incised specimen on *Addis* paste. Some of the *Hardy* and *Manchac* may be related to this component as well, but they more likely represent a slightly earlier transitional Coles Creek assemblage. In addition, the sherd of Bell Plain and many of the *unspecified* sherds of Baytown Plain probably belong to the Plaquemine occupation, as noted for other sites in the region.

Of interest in the Plaquemine assemblage is one of the *Addis* rims which contains diagonal incised lines on the interior lip of a shallow bowl (see Figure 7-18, A). This may be the sherd McIntire identified as Australia Interior Incised. The sherds of Leland Incised also deserve special mention. The two examples of *var. Foster* (see Figure 7-18, B-C) occur on *Addis* paste with incisions that, in quality and technique, approach workmanship of *var. Leland*. The *unspecified* example of Leland Incised occurs on Baytown paste (see Figure 7-18, E). If not for that it would have been classed as *var. Russell*. One of the sherds of Plaquemine Brushed exhibits horizontal brushing embellished with short, narrow, vertical brush strokes (see Figure 7-17, L). The unclassified incised sherd contains an interior rim strap with a wide, U-shaped line incised on it (see Figure 7-18, I). It may be off a shallow bowl of Leland Incised, *var. Blanchard*, but not enough of the decoration is present to tell for sure. (This may also have been the sherd classified by McIntire as Australia Interior Incised.) Additionally, it is clear that the sherds which McIntire originally classified as Marksville Incised are the sherds of Leland Incised and L'Eau Noire Incised.

The next strongest component present appears to relate to the transitional Coles Creek culture, and is signified by the sherds of *Hardy*, *Harrison Bayou*, and *Manchac* (see Figure 7-17, F-G, H, and I-J, respectively). The *Iberville* sherds may also be of this component, although their paste is equivalent to the *Little River* variety of Baytown Plain, thus indicating a slightly earlier, middle Coles Creek occupation. It is interesting to note that McIntire undoubtedly classified the *Manchac* sherds as Mazique Incised, and the *Hardy* sherds as Coles Creek Incised, thereby suggesting the presence of an early Coles Creek period occupation which, in reality, is entirely lacking.

As noted, a probable middle Coles Creek component can be recognized by the sherds of *Iberville* and *Little River*, along with the example of Mazique Incised, *var. Kings Point* (see

Table 7-17. Ceramic Counts and Percentages for the Waterproof Point Site (16 TR 73), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Addis Plain <i>var. Addis</i>	8	23	31	9.3	--
Baytown Plain <i>var. Little River</i>	4	18	22	6.6	--
<i>var. Marksville</i>	1	1	2	0.6	--
<i>var. Troyville</i>	1	0	1	0.3	--
<i>var. unspecified</i>	24	223	247	74.0	--
Baytown Plain <i>var. unspecified</i>	0	1	1	0.3	--
Chevalier Stamped <i>var. unspecified</i>	0	1	1	0.3	3.3
Coles Creek Incised <i>var. Hardy</i>	3	1	4	1.2	13.3
<i>var. unspecified</i>	0	4	4	1.2	13.3
French Fork Incised <i>var. Iberville</i>	0	2	2	0.6	6.7
Harrison Bayou Incised <i>var. Harrison Bayou</i>	1	0	1	0.3	3.3
L'Eau Noire Incised <i>var. unspecified</i>	1	0	1	0.3	3.3
Leland Incised <i>var. Foster</i>	0	2	2	0.6	6.7
<i>var. Russell</i>	1	0	1	0.3	3.3
<i>var. unspecified</i>	1	0	1	0.3	3.3
Maddox Engraved <i>var. Emerald</i>	2	0	2	0.6	6.7
Mazique Incised <i>var. Kings Point</i>	1	0	1	0.3	3.3
<i>var. Manchac</i>	3	1	4	1.2	13.3
Plaquemine Brushed <i>var. Plaquemine</i>	2	2	4	1.2	13.3
Pontchartrain Check Stamped <i>var. Pontchartrain</i>	0	1	1	0.3	3.3
Unclassified incised on Addis paste	1	0	1	0.3	3.3
Total	54	280	334	100.1	99.7

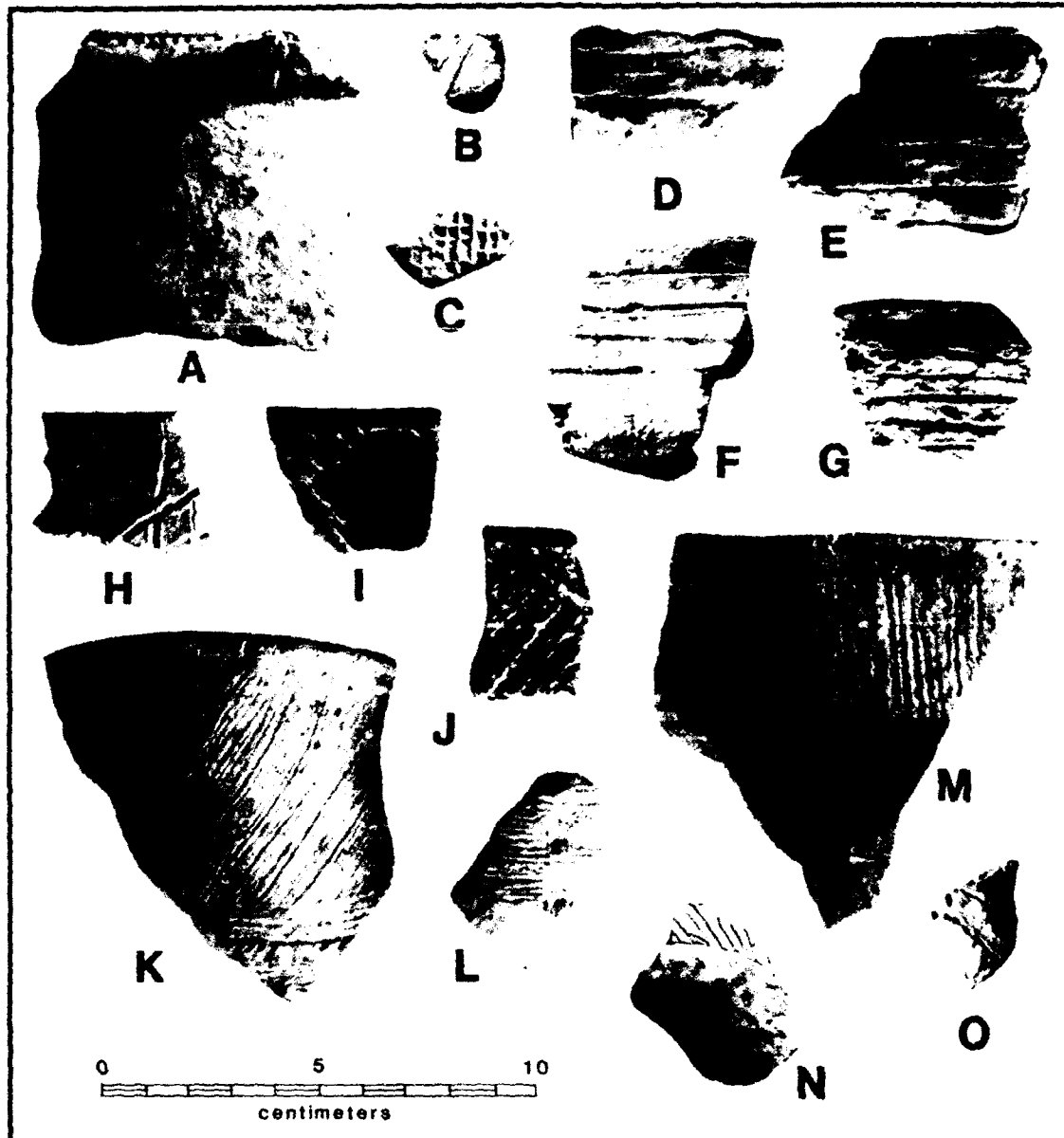


Figure 7-17. Baytown, Coles Creek, and Mississippi period ceramics from Waterproof Point (16 TR 73). A) Baytown Plain, var. *Troyville* (with French Fork lug); B) Mazique Incised, var. *Kings Point* (on Vicksburg rim); C) Pontchartrain Check Stamped, var. *Pontchartrain*; D-E) Coles Creek Incised, var. *unspecified*; F-G) Coles Creek Incised, var. *Hardy*; H) Harrison Bayou Incised, var. *Harrison Bayou*; I-J) Mazique Incised, var. *Manchac* (I approaches *Kings Point* in execution); K-M) Plaquemine Brushed, var. *Plaquemine*; N-O) French Fork Incised, var. *Iberville*. (All from LSU collection.)

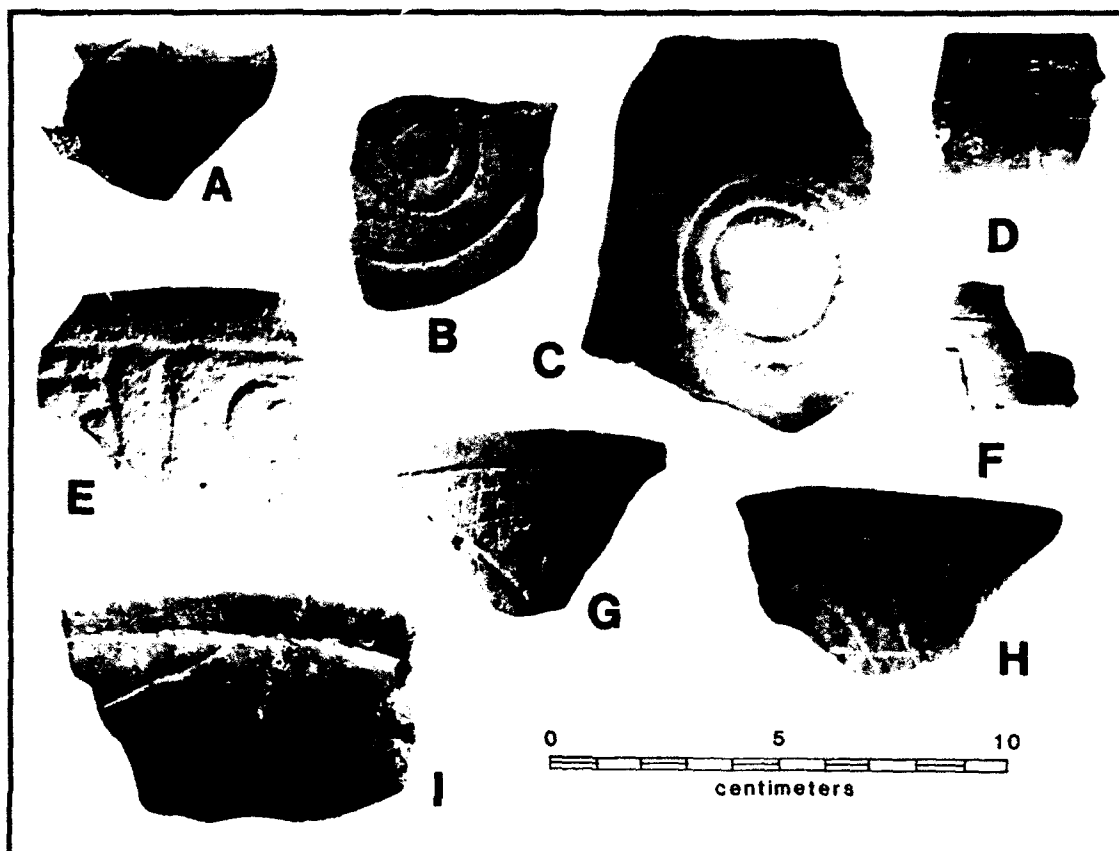


Figure 7-18. Additional Mississippi period ceramics from Waterproof Point (16 TR 73). A) Addis Plain, var. *Addis* (with incisions on lip interior); B-C) Leland Incised, var. *Foster*; D) Leland Incised, var. *Russell*; E) Leland Incised, var. *unspecified*; F) L'Eau Noire Incised, var. *unspecified*; G-H) Maddox Engraved, var. *Emerald*; I) Unclassified interior incised on *Addis* paste. (All from LSU collection.)

Figure 7-17, B). The latter is a classic example of the variety, occurring on a tapered, Vicksburg rim. The sherds of *Iberville* are not without interest. One consists of zoned hatching (see Figure 7-17, N), while the other includes zoned, linear punctations reminiscent of var. *Lafayette* (see Figure 7-17, O). It is possible that the *unspecified* examples of Coles Creek Incised also are a part of this assemblage (see Figure 7-17, D-E). Their decoration is akin to vars. *Blakely* and *Greenhouse*, although the quality of the incisions is more in line with var. *Hardy*.

The next minor component that can be recognized is probably equivalent to the middle or late Baytown period. It can be recognized by the sherds of *Troyville* and *Chevalier Stamped*, var. *unspecified*. The former sherd exhibits a French Fork lug decorated with linear punctations (see Figure 7-17, A), while the latter sherd has an "early" looking paste reminiscent of the *Cornelia* variety.

Lastly, although not recognized by any decorated sherds, a probable early Marksville component is present, thereby vindicating McIntire's initial-occupation estimate, if not his actual analysis. The sherds classed as Baytown Plain, var. *Marksville* both have pitted and

cracked exterior surfaces and laminated interiors. If not for the presence of tempering particles, they could be identified as Tchefuncte Plain. This is not unlike the early Marksville material from the St. Paul Bayou (16 TR 60) and Bayou Mauvais Bois (16 TR 70) sites.

Comments

Waterproof Point is another site in the marshes just southwest of Houma with ties to the relict Teche-Mississippi by virtue of its small early Marksville component (ca. A.D. 1 to 200). It also contains minor occupations of the middle to late Baytown period (ca. A.D. 550 to 700) and the middle Coles Creek period (ca. A.D. 900-1000). A more substantial transitional Coles Creek occupation (ca. A.D. 1000 to 1200) is also present, and is followed directly by a major Plaquemine occupation of the early to middle Mississippi period (ca. A.D. 1200 to 1500). Undoubtedly, the site at that time had ties to the larger Plaquemine ceremonial and political centers of the region, such as the Gibson (16 TR 5) and Bayou du Large/Marmande Plantation (16 TR 19) sites.

FREDERICKS POINT (16 TR 75)

Location and Description

This site was found by Randolph Bazet in 1928 and reported to McIntire in 1953. It is unlikely that McIntire ever visited the locale, and there is some confusion on the exact location of the site. The position shown on maps at the Division of Archaeology place the site along the north bank of Small Bayou La Pointe approximately 4.4 mi southwest of the junction of Bayou du Large and Falgout Canal. However, the latitude and longitude coordinates given on the LDA site form place the site in the marsh south of Small Bayou La Pointe about 0.3 mi southeast of the former location. Because one of our terrestrial survey transects (No. 68) crossed Small Bayou La Pointe only about 200 ft south of the Division's location, an effort was made to try to relocate the site. This, unfortunately, failed, and the site's true position must remain a mystery for a while longer. Nevertheless, the site-landform relationship can be determined, as both possible locations suggest the site is associated with the natural levees of Small Bayou La Pointe. As noted earlier, Smith et al. (1986:Pl. 50) identify this bayou as a Lafourche distributary channel.

McIntire (1958:Pl. 2) illustrates the site only on his distribution map, but provides the added information that the site is a shell midden. Neuman (1977:23) similarly notes that the site is a shell midden, and then suggests that Coles Creek and Plaquemine components are present. Weinstein and Gagliano (1985:Figs. 9, 10) followed Neuman's lead and plotted the site on their Coles Creek and Mississippi period maps of the Lafourche region.

Collection Review

When Bazet provided McIntire with information on the Fredericks Point site, he also donated his collection to LSU. This collection (Catalogue No. 53-452) now is housed at that institution's Museum of Geoscience, and was examined during the course of the present study. The ceramic analysis is provided in Table 7-18, while several of the sherds are illustrated in Figure 7-19.

Clearly, Neuman's estimate of Coles Creek and Plaquemine components is a fairly accurate one. The only qualifying statement necessary regards the Coles Creek assemblage which is represented by the sherd of *Hardy* (see Figure 7-19, B) and the possible sherd of *Mott*. The latter is questionable in that it approaches *Hardy* in quality, but is a bit too evenly incised to qualify. *Mott* seems a more reasonable possibility, and that is how it is so listed.

Table 7-18. Ceramic Counts and Percentages for the Fredericks Point Site (16 TR 75), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Addis Plain <i>var. unspecified</i>	0	1	1	4.0	--
Baytown Plain <i>var. unspecified</i>	1	19	20	80.0	--
Bell Plain <i>var. unspecified</i>	0	1	1	4.0	--
Coles Creek Incised <i>var. Hardy</i>	1	0	1	4.0	33.3
<i>var. Mott (?)</i>	0	1	1	4.0	33.3
Maddox Engraved <i>var. Emerald</i>	1	0	1	4.0	33.3
Total	3	22	25	100.0	99.9

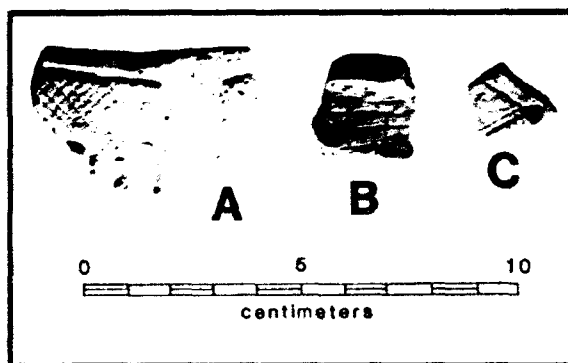


Figure 7-19.

Aboriginal ceramics from Fredericks Point (16 TR 75) and Bayou Penchant II (16 TR 76). A) Maddox Engraved, *var. Emerald* (16 TR 75); B) Coles Creek Incised, *var. Hardy* (16 TR 75); C) Woodville Zoned Red, *var. Woodville* (16 TR 76). (All from LSU collections.)

Nevertheless, the Coles Creek Incised sherds may signify a very late, transitional Coles Creek component, rather than a more typical Coles Creek assemblage as Neuman's data would suggest.

The Plaquemine component can be identified by the sherds of *Addis* and *Emerald*, the latter represented by the rim of a hemispherical bowl with paste equivalent to the *Greenville* variety of *Addis* Plain (see Figure 7-19, A). The sherd of *Bell* Plain is most likely a part of this assemblage, although it may signify a later Mississippian component. It is interesting in that it is tempered with finely crushed *Rangia* shell.

Comments

This is a relatively late site, probably having been utilized from approximately A.D. 1100 or 1200 to A.D. 1500 or 1600.

BAYOU PENCHANT II (16 TR 76)

Location and Description

This well-preserved shell midden was recorded by Ed Orten in July 1953. No site description was given, and the location provided was somewhat ambiguous. It now is clear, after numerous trips past the site during the present study, that the midden is a north-south trending feature situated in the marsh 0.4 mi east of Bayou Penchant and about 0.65 mi north-northeast of the junction of the bayou and Brady Canal (see Figure 6-5). The site is covered with oaks and palmettos, and in appearance is almost identical to the possible beach-ridge sites which form a roughly east-west line immediately to the south. It presently is uncertain if, in fact, the site is part of the beach-ridge complex. It might be, although its position north of the main line and its north-south orientation, suggest otherwise. Orten hypothesized that the site rested on an "old" course of Bayou Penchant, although no channel is visible on aerial photographs of the area, and Smith et al. (1986:Pl. 49) did not recognize any relict stream remains. Rather, it may be that the site is situated atop the backslope of the subsided Bayou Penchant natural levee. As noted on numerous occasions previously, Smith et al. (1986) identify Bayou Penchant as a major Teche-Mississippi distributary channel, suggesting that it once had relatively wide and stable levees.

Whatever the case, McIntire (1958:73, Pls. 2, 5, 8, 12, 13) used a small collection obtained by Orten to identify the site as an initial-occupation Troyville locale, with a subsequent Plaquemine component. As will be seen, McIntire correctly interpreted the site's components. Later, Neuman (1977:23) used McIntire's data to list the site as a Troyville and Plaquemine locale, while Weinstein and Gagliano (1985:141, Figs. 7-10) show the site on their Marksville, Baytown, Coles Creek, and Mississippi period paleogeographical maps. The earlier occupation suggested by these latter authors comes from the fact that McIntire (1958:Pl. 13) had listed Churupa Punctated as one of the ceramic types collected by Orten, and this was interpreted as a late Marksville period diagnostic. Unfortunately, as will be seen, although McIntire correctly interpreted the components present at Bayou Penchant II, no Churupa Punctated is present in the collection.

Collection Review

With the above in mind, then, it now seems appropriate to turn to Orten's original collection. McIntire (1958:Pl. 13) identified the following items:

<i>Type</i>	<i>Percentage</i>
Plaquemine Brushed	20.0
French Fork Incised	20.0
Larto Red Filmed	20.0
Churupa Punctated	40.0

The collection (reportedly Catalogue No. 53-465) was relocated at the LSU Museum of Geoscience, although the bag in which the material was found lacked a catalogue number and only contained the site number. Nevertheless, despite some discrepancies, this appears to be Orten's original collection. Its reanalyzed version is presented in Table 7-19. If not for the two sherds of *Little River* and the unclassified incised specimen, which has rectilinear lines and may be L'Eau Noire Incised, the collection could easily represent a single component, Baytown period occupation. McIntire's two sherds of Churupa Punctated almost certainly are the unclassified punctated specimen and the sherd of *Woodville*. The former may possibly be a portion of what Phillips (1970) terms the Six-Mile Treatment, while the latter can be identified on the basis of incisions and punctations present on the interior of what was a shallow bowl,

Table 7-19. Ceramic Counts and Percentages for the Bayou Penchant II Site (16 TR 76), LSU Collection.

CERAMICS	RIM	BODY	TOTAL	% TOTAL	% DEC.
Baytown Plain					
<i>var. Little River</i>	0	2	2	2.6	—
<i>var. unspecified</i>	4	65	69	89.6	—
French Fork Incised					
<i>var. unspecified</i>	0	1	1	1.3	16.7
Larto Red					
<i>var. Larto</i>	0	2	2	2.6	33.3
Woodville Zoned Red					
<i>var. Woodville</i>	0	1	1	1.3	16.7
Unclassified incised on Baytown paste	0	1	1	1.3	16.7
Unclassified punctated on Baytown paste	0	1	1	1.3	16.7
Total	4	73	77	100.0	100.1

although the red filming has worn off (see Figure 7-19, C). Both are good Baytown period diagnostics. So too are the *Larto* sherds, and, as seen by the collection from the Lake Penchant site (16 TR 4), several varieties of French Fork Incised were common in that period. The French Fork Incised sherd from Bayou Penchant II could perhaps be *var. Larkin*, although its zoned punctations seem a bit too large, and its paste appears to be of a form that is too early for that variety. Another indication of the strong Baytown period flavor of the collection comes from one of the Baytown Plain rims. It is highly eroded, but may have an incised line placed well down below the lip, suggestive of Coles Creek Incised, *var. Stoner*. Where McIntire's Plaquemine Brushed went is not known, as no possible equivalents could be seen in the present collection.

Comments

The Bayou Penchant II site (16 TR 76) was initially occupied during the Baytown period by people of a Troyville-like culture. Given the presence of the red-filmed types, along with the Six-Mile Treatment and the possible *Stoner* sherd, it would appear that the occupation was late in the Baytown period, probably at a time equivalent to what Belmont and Williams (1981:32-34) term the Woodville Horizon (ca. A.D. 450 to 600). This also apparently was the main component present at the site, although the sherds of *Little River* and the possible example of L'Eau Noire Incised hint at a very minor early Mississippi period component (ca. A.D. 1200 to 1500).

CHAPTER 8

PALEOGEOGRAPHY AND SETTLEMENT WITHIN THE TERREBONNE MARSH REGION

Introduction

This chapter will present a reconstruction of the paleogeography of the study area from approximately 3,000 years ago until A.D. 1940, including a review of prehistoric and historic settlement patterns during that time. It is important to note that the paleogeographical reconstruction has not been developed in a vacuum, and previous works of similar scope in the Lower Mississippi Valley need to be recognized. Most early efforts at devising such a methodology have, in fact, centered around the coastal Louisiana region, where natural levees are pronounced and archeological sites on such features are easily located. Beginning in 1936, geologists and geographers began to realize the benefits of incorporating archeological data into an interpretation of coastal geomorphology. Led by Kniffen (1936), it was recognized that specific landforms could be correlated to sites of a specific period, thus allowing for estimates of both the age of the landform and the environment of the surrounding area during the site's occupancy. Following Kniffen's original research, several investigators in the 1950s, '60s, and early '70s refined the data base and extended paleogeographical interpretation across much of coastal Louisiana and southeast Texas. McIntire (1958), Saucier (1963, 1974), Gagliano (1963), Aten (1979, 1983), and Weinstein and Gagliano (1985) provided much of this new information. McIntire's (1958) research, in particular, is important as it represents the first paleogeographical interpretation related to the current study area, while that of Weinstein and Gagliano (1985) attempted a paleogeographical reconstruction of the region utilizing data from recent cultural resources surveys.

With the advent of cultural resources surveys during the past 10 years it became possible to continue similar studies on a project-specific scale. Paleogeographical reconstructions related to such surveys were commonly blessed with a wealth of new site-related data that could be incorporated into the geomorphological interpretation of a restricted area. Again, much of the research revolved around survey areas in coastal Louisiana, particularly the Barataria Basin (Gagliano et al. 1979), eastern New Orleans (Gagliano 1980), and St. Bernard Parish (Wiseman et al. 1979). One study, however, extended the paleogeographical approach into the upper Steele Bayou Basin of west-central Mississippi (Weinstein et al. 1979a), while another brought it to the upper Felsenthal region along the Ouachita River (Weinstein and Kelley 1984).

On a more detailed level, a concerted effort was applied to reviewing most of the existing literature on both the geology and archeology of the Terrebonne marsh region. Along these lines, the most useful geological studies are those by Frazier (1974), Fisk (1944), and Smith et al. (1986). As noted earlier, Smith's study was commissioned by the New Orleans District in advance of the present survey and was designed specifically to direct archeological surveyors while they are in the field. As such, it has formed the backbone of much of the subsequent interpretation. Of particular importance is the atlas accompanying the study. It contains 54 plates, each of a 7.5-min quadrangle map, of which 22 are related directly to the

Terrebonne marsh area. Identified on each plate are all extant and relict landforms, river channels, and distributaries. Most of the features recognized by Smith et al. (1986) have been reviewed previously and will be considered, as necessary, below.

Another aspect of the Smith et al. study was the identification of individual distributaries with either the Teche or Lafourche delta systems. As noted several times throughout the present study, the archeological data suggest that several revisions are probably necessary in their interpretation. On the whole, however, their findings were greatly substantiated by the present study.

Methodology

The following paleogeographical model is structured around a series of seven figures which are presented chronologically and which show changes in the physical landscape and general settlement patterns from 1,000 B.C. through A.D. 1940. In order to produce these figures, specific assumptions had to be made and a set procedure followed. One of the principal assumptions was that sites situated on the natural levee of a channel were established after that specific channel ceased to receive full discharge, or became abandoned or relict. While such an assumption cannot be verified without extensive stratigraphic data, several previous studies in similar floodplain environments suggest that this is generally the case (see, especially, Weinstein et al. 1979a; Weinstein 1981).

The overall procedure followed in developing the paleogeographical interpretation was relatively straight forward. Initially all site data, including information supplied by published reports and the findings of the present survey (either sites visited or collections examined), were reviewed. Collating all these data allowed for recognition of specific cultural components at each site. In most cases, the cultural data are of high quality and there can be no question as to the components present at a specific site. In other instances, however, adequate data are lacking and sites can be categorized only as "undifferentiated Baytown" or "post-Tchula." Table 8-1 provides a listing of all sites utilized in the initial paleogeographical synthesis. Included is information on component(s) present, site size, type category. Category 1 sites are ones which were first recorded during the present project. Category 2 sites are previously recorded sites that were revisited during the present project. Category 3 sites are ones from which only previous collections were studied. The first part of the table lists those sites for which data were collected during the present study, while the second part includes sites for which data came only from the literature.

Once all cultural components were synthesized, the next step was to group sites by specific intervals. The intervals chosen are as follows: (1) Poverty Point and Tchula, (2) Marksville, (3) Baytown, (4) Coles Creek, (5) Mississippi, (6) Colonial, (7) Antebellum and Civil War, and (8) Postbellum and Modern.

For each chosen interval, sites were plotted on a base map of the study area. A distinction was maintained between those sites occupied for the first time during that specific interval ("initial occupation sites") and those which had been previously occupied during an earlier interval ("component present"). Using the excellent data supplied by Smith et al. 1986, specific channel and course remnants were added to the base map, and an estimate of the geomorphology and cultural situation of a specific time was identified. Graphic results of the paleogeographical reconstruction are presented on Plates 4 through 10, and it will be necessary for the reader to have these available in order to follow the discussion provided below.

Table 8-1. Summary of Site Components, Site Size, and Site Type, for Locales within the Terrebonne Marsh Study Area.

SITE DATA BASED ON PRESENT STUDY					
SITE NO.	SITE NAME	ASSUMPTION PARISH			CATEGORY
		COMPONENTS	SIZE (ACRES)	SITE TYPE	
16 AS 16	Pennison	late Tchula (?), middle to late Coles Creek (C.C.), early Mississippi (Miss.), late Miss. (possibly Mississippian culture)	?	One mound, probably pyramidal, and associated village area.	3
16 AS 35	Thibodaux	late C.C., middle to late Miss., Colonial Antebellum and Civil War (A.C.W.), Postbellum and Modern (P.M.)	ca. 22.3 for shell midden	Shell midden with probable village area on higher levee surface. Colonial farm and later plantation.	2
16 AS 36	Bayou Caroline	Tchula (?), early to middle C.C., late C.C. or early Miss.	?	Two earth and shell mounds (possibly middens) and associated shell midden.	2
ST. MARY PARISH					
16 SMY 20	Bayou Chene	undifferentiated (undiff.) C.C.	?	One large earth and shell midden and three smaller, adjacent middens.	2
16 SMY 44	Boeuf-Chene Junction	post-Tchula, A.C.W., P.M.	ca. 0.2 for shell midden	Shell midden with possible adjacent village area. Historic plantation.	2

(continued)

Table 8-1. continued.

SITE NO.	SITE NAME	COMPONENTS	SIZE (ACRES)	SITE TYPE	CATEGORY
16 SMY 49	Oak Chenier	late Marksville, undiff. Baytown, undiff. C.C.	0.3	Shell midden	2
16 SMY 52	Avoca Island Drainage Plant No. 1	P.M.	0.14	Drainage plant	2
16 SMY 53	New site	Early to middle C.C., P.M.	ca. 0.002 for shell midden	Shell midden and historic cemetery	2
16 SMY 60	Avoca Island Drainage Plant No. 3	P.M.	0.09	Drainage plant	2
16 SMY 62	New Oil Location Canal	late Baytown, early C.C.	?	Shell midden	2
16 SMY 63	Byrd Extension	late Baytown, early C.C.	?	Shell midden	2
16 SMY 65	Puff Ball	undiff. C.C.	0.07	Shell and earth midden	2
16 SMY 125	Avoca Island	late Miss. (Mississippian culture?)	0.06	Shell midden	2
16 SMY 126	Avoca Island Slough	?	0.007	Shell midden	2
16 SMY 127	Avoca Island Spoil	post-Tchula	0.05	Shell midden	2
16 SMY 128	Bayou Boeuf South	?	0.005	Shell midden	2
16 SMY 129	Head of Bayou Chene	post-Tchula	0.005	Shell midden	2
16 SMY 142	Aucoin I	late C.C., early Miss.		Shell midden	2
16 SMY 143	Aucoin II	late C.C. and/or early Miss.	?	Shell midden	2
16 SMY 144	Gagliano Garden	early and late Miss.	?	Shell midden	2

(continued)

Table 8-1. continued.

SITE NO.	SITE NAME	COMPONENTS	SIZE (ACRES)	SITE TYPE	CATEGORY
16 SMY 145	Bayou Bouef Spoil	P.M.	?	Redeposited historic artifacts	2
16 SMY 178	Avoca Island #1	early and late Miss., P.M.	?	Shell midden, historic plantation	1
16 SMY 179	Pel-Tex Dock	post-Tchula, P.M.	?	Unknown prehistoric, historic house	1
16 SMY 181	Oakley II	A.C.W., P.M.	0.43	Plantation	1
16 SMY 182	Glen Orange	A.C.W., P.M.	4.13	Plantation	1
16 SMY 183	Avoca Island Drainage Plant No. 2	P.M.	0.12	Drainage plant	1
TERREBONNE PARISH					
16 TR 1	Mandalay Plantation	early Marksville, late Marksville (?), undiff. Baytown, middle to late C.C.	?	One mound of unknown form and associated village area	3
16 TR 3	St. Eloie Plantation	undiff. Baytown	?	Shell midden	3
16 TR 4	Lake Penchant	late Marksville, early to late Baytown, early to late C.C., early to late Miss.	?	Shell midden on possible beach ridge	2
16 TR 8	Bayou New Route	late C.C., early to middle Miss.	?	Shell midden	3
16 TR 19	Bayou du Large/Marnande Plantation	early to late C.C. early to late Miss., P.M.	0.7 at a minimum	One pyramidal mound and assoc. village area with shell and earth midden, historic plantation	2

(continued)

Table 8-1. continued.

SITE NO.	SITE NAME	COMPONENTS	SIZE (ACRES)	SITE TYPE	CATEGORY
16 TR 20	Bayou du Large #6	late C.C.	?	Shell midden	3
16 TR 21	Fourleague Bay	middle C.C.	?	Shell midden	3
16 TR 24	Bayou du Large #8	early Miss.	?	Shell midden	3
16 TR 25	Bayou du Large #7	post-Tchula	?	Shell midden	3
16 TR 27	Shell Point	post-Tchula	?	Shell midden	3
16 TR 28	Lake Pagie	undiff. Tchula, undiff. Marksville, late C.C., late Miss.	?	Shell midden	2
16 TR 29	Rangia Lake	late Marksville, late C.C., early to middle Miss., late Miss. (Mississippian culture?)	?	Shell midden	3
16 TR 30	Jug Lake	middle Miss., late Miss. (Mississippian culture?)	?	Shell midden	3
16 TR 31	Bayou De Cade	late Tchula, early and late Marksville	?	Shell midden	2
16 TR 36	Plumb Bayou	late Baytown (?)	?	Shell midden	3
16 TR 43	Teles Island	late Baytown, early Miss.	?	Large shell midden or middens	3
16 TR 44	Billiot Canal	post-Tchula, late Miss.	1.0 for intact midden	Several shell middens, only one still intact	2
16 TR 47	Bayou Penchant I	early to late Miss.	1.9	Shell midden on possible beach ridge with low shell mound at one end	2

(continued)

Table 8-1. continued.

SITE NO.	SITE NAME	COMPONENTS	SIZE (ACRES)	SITE TYPE	CATEGORY
16 TR 49	Marmande Ridge	post-Tchula	ca. 2.0	Shell midden with one pyramidal earth and shell mound.	2
16 TR 50	Turtle Bayou	late Marksville, undiff. Baytown, undiff. C.C.	0.7	Shell midden	2
16 TR 53	Bayou du Large	undiff. Baytown (?)	0.009	Shell midden	3
16 TR 54	Bayou du Large	undiff. Miss.	?	Shell midden	3
16 TR 56	Bayou du Large	late C.C., early Miss.	ca. 0.6 before erosion	Shell midden	2
16 TR 58	Eagle Lake	late C.C. or early to middle Miss., late Miss.	?	Shell midden	3
16 TR 60	St. Paul Bayou	undiff. Tchula, early Marksville	0.04	Shell midden	2
16 TR 65	Carion Crow Bayou/Lovell Island	late C.C. or early Miss.	1.6	Shell midden with circular shell mound on possible beach ridge	2
16 TR 66	Carion Crow Lake/Crochet's Island	late Baytown or early C.C., middle to late C.C., late Miss.	1.3	Shell midden on possible beach ridge	2
16 TR 69	Minors Canal	late C.C. or early Miss. (?)	ca. 0.04	Shell midden	2
16 TR 70	Bayou Mauvais Bois	early Marksville	?	Shell midden	3
16 TR 71	Bayou du Large/Old Bridge	late C.C., late Miss.	?	Shell midden	3
N/A	Waterproof Point	early Marksville, middle to late Baytown, middle to late C.C., early to middle Miss.	?	Shell midden	3

(continued)

Table 8-1. continued.

SITE NO.	SITE NAME	COMPONENTS	SIZE (ACRES)	SITE TYPE	CATEGORY
16 TR 75	Fredericks Point	late C.C., early to late Miss.	?	Shell midden	3
16 TR 76	Bayou Penchant II	late Baytown, early Miss.	?	Shell midden on possible beach ridge	3
16 TR 78	Bayou Black	early to late C.C.	?	Shell midden with possible earth mound nearby—both since destroyed	3
16 TR 84	Bayou Black-GIWW	late C.C., late Miss., P.M.	0.007	Shell midden, historic house	2
16 TR 87	GIWW-Houma South	?	0.002	Shell midden	2
16 TR 88/103	Deer Island	early C.C., early to middle Miss.	ca. 12.1 using Landreth and Catheart's estimates of size	Shell midden on possible beach ridge	2
16 TR 112	Brady Canal	?	0.4	Shell midden on possible beach ridge	2
16 TR 192	Mauvais Bois #3	late C.C.	ca. 2.4	Shell midden	1
16 TR 193	Fahrenheit Knoll	post-Tchula	0.5	Earth midden	2
16 TR 194	Starling Bergeron	post-Tchula	?	Earth midden	2
16 TR 196	Intracoastal-Du Large	post-Tchula	?	Shell midden	1
16 TR 197	Sunrise Field	late Marksville, late Baytown or early C.C.	?	Possibly two or three shell middens hit by canals	1
16 TR 198	Mulberry Cemetery	P.M.	?	Cemetery	1

(continued)

Table 8-1. continued.

SITE NO.	SITE NAME	COMPONENTS	SIZE (ACRES)	SITE TYPE	CATEGORY
16 TR 199	Du Large House	P.M.	0.4	House	1
16 TR 200	Bleux Island	post-Tchula	1.0	Shell midden on possible beach ridge	1
16 TR 201	Brady Canal Shell Ridge	middle to late C.C. (?)	2.0	Shell midden on possible beach ridge	1
16 TR 202	Marmande Ridge Crevasse	middle to late C.C. (?)	0.6	Two separate, but adjacent, shell middens	1
16 TR 203	Mulberry Bricks	P.M.	3.16	Plantation	1
16 TR 204	Small Bayou La Poinne Midden	late Miss.	?	Shell midden hit in only one shovel hole	1
16 TR 205	Frey's Mauvais Bois	?	0.1	Shell midden	1
16 TR 206	Voss Canal	undiff. Miss.	?	Shell midden	1
16 TR 207	Xu-GJWW	post-Tchula	?	Shell midden	1
16 TR 208	Sunrise Field East	post-Tchula	?	Shell midden	1
16 TR 209	Orange Grove Field	?	0.005	Shell midden	1
16 TR 210	De Cade/Turtle Bayou Junction	early Miss. (?)	?	Shell midden	1
16 TR 211	Bois d'Arc #1	late Poverty Point, late Tchula, post-Tchula, middle to late Miss.	?	Shell midden	1
16 TR 212	Bois d'Arc #2	late Poverty Point, undiff. Tchula	?	Earth midden	1

(continued)

Table 8-1. continued.

SITE NO.	SITE NAME	COMPONENTS	SIZE (ACRES)	SITE TYPE	CATEGORY
16 TR 213	Waterproof Distributary	late C.C., early to late Miss.	0.08	Earth midden	1
16 TR 215	Waterproof Point Field	early to middle C.C.	1.4	Earth midden	1
16 TR 218	Altschul	early Miss., P.M.	11.29	Earth midden, historic plantation	1
16 TR 219	Carencro-Little Carencro	?	0.3	Shell midden on possible beach ridge	1
16 TR 220	Lake Pagie East	post-Tchula	?	Shell midden	1
SITE INFORMATION BASED ON PREVIOUS RESEARCH ONLY					
ASSUMPTION PARISH					
16 AS 14	Lake Palourde	post-Tchula, middle to late Miss. (Weinstein et al. 1978:31)	?	Shell midden	N/A
16 AS 34	Hard Times Plantation	A.C.W. (Weinstein et al. 1978:31-33)	?	Plantation	N/A
16 AS 37	Chene-Assumption	late Marks., undiff. Baytown (Gibson 1978b:121-122)	?	Shell midden	N/A
ST. MARY PARISH					
16 SMY 1	Goat Island	early to late C.C. (Weinstein et al. 1978:73-74; Goodwin et al. 1985a:98-110)	17.4	Shell midden and associated village area	N/A

(continued)

Table 8-1. continued.

SITE NO.	SITE NAME	COMPONENTS	SIZE (ACRES)	SITE TYPE	CATEGORY
16 SMY 19	Greenwood Cemetery	late Marksville, undiff. Baytown, early to late C.C., undiff. Miss. (?), P.M. (Weinstein et al. 1978:75-83)	?	Shell midden and historic cemetery	N/A
16 SMY 25	Shell Island Point	late Baytown or early C.C. to middle C.C. (Gibson 1978b:174-176)	?	Shell midden	N/A
16 SMY 39	Bone Point	A.C.W., P.M. (Gibson 1978b:169-172)	?	Civil War fortification	N/A
16 SMY 46	Chene III	post-Tchula (Gibson 1978b:125-126)	?	Shell midden	N/A
16 SMY 47	Catfisherman	early C.C. (Gibson 1978b:126)	?	Shell midden	N/A
16 SMY 48	Elephant Ear	late Baytown or early C.C., late C.C. (Gibson 1978b:127)	?	Shell midden	N/A
16 SMY 50	Shaffer Oak Ridge	undiff. C.C. (Gibson 1978b:157-159)	?	Shell midden	N/A
16 SMY 51	Rip Rap	late C.C., early Miss. (?) (Gibson 1978b:159-160)	?	Shell midden	N/A
16 SMY 55	Adam's Place	post-Tchula (Gibson 1978b:163, 165)	?	Earth midden (?)	N/A
16 SMY 56	Adam's Ridge I	post-Tchula (Gibson 1978b:165)	0.02	Shell midden	N/A

(continued)

Table 8-1. continued.

SITE NO.	SITE NAME	COMPONENTS	SIZE (ACRES)	SITE TYPE	CATEGORY
16 SMY 57	Adam's Ridge II	post-Tchula (Gibson 1978b:165-166)	0.0005	Shell midden	N/A
16 SMY 59	Headquarters	undiff. Baytown, Historic (Gibson 1978b:166, 168)	?	Shell midden	N/A
16 SMY 64	Ryan	post-Tchula (Gibson 1978b:136, 138)	?	Shell midden	N/A
16 SMY 130	Avoca Plantation/Bayou Shaffer/Brick	undiff. Marks., early to middle Miss., late Miss., A.C.W., P.M. (Kelley 1988:65, 70, Tables 1 and 3)	?	Shell midden and possible village area, historic plantation	N/A
16 SMY 133	Bayou Ramos I	early to middle C.C., A.C.W., P.M. (Weinstein et al. 1978:84-100)	0.02 for shell midden	Shell midden, aniebellum plantation, postbellum saw mill	N/A
16 SMY 135	Bayou Ramos II	middle to late C.C. (Weinstein et al. 1978:120-123)	0.03	Shell midden	N/A
16 SMY 136	Bayou Ramos III	middle C.C. (Weinstein et al. 1978:123-126)	0.02	Shell midden	N/A
16 SMY 137	Bayou Ramos IV	post-Tchula (Weinstein et al. 1978:126-127)	?	Shell midden	N/A
16 SMY 139	Bayou Ramos VI	late C.C., early to middle Miss. (Weinstein et al. 1978:127-130)	0.006	Shell midden	N/A

(continued)

Table 8-1. continued.

SITE NO.	SITE NAME	COMPONENTS	SIZE (ACRES)	SITE TYPE	CATEGORY
16 SMY 146	La Coup	late Marks (?), early to late Baytown, early to late C.C., middle Miss. (?), A.C.W., P.M. (Weinstein et al. 1978:148-159)	?	Shell midden, historic farm	N/A
16 SMY 147	Fort Star	A.C.W. (Weinstein et al. 1978:159)	?	Civil War fortifications	N/A
16 SMY 148	Fairview Plantation Mound	post-Tchula, P.M. (Weinstein et al. 1978:159-164)	?	One earth mound and associated village area	N/A
16 SMY 108/149	Fairview Plantation Midden	post-Tchula, P.M. (Weinstein et al. 1978:164-167)	0.006	Shell midden associated with 16 SMY 148	N/A
16 SMY 184	Berwick Mounds	unknown—arrangement of mounds and size suggests middle to late Miss. at least (Cathcart and Landreth journals; Williams map; see Chapter 3)	?	Four pyramidal mounds grouped around plaza, with associated village and shell middens	N/A
TERREBONNE PARISH					
16 TR 5	Gibson Mounds	early to late Marksville, early to late Baytown, early to late C.C., early to middle Miss. (Weinstein et al. 1978:168-198)	27.5	Two pyramidal earth mounds, one pyramidal shell and earth mound, and associated village area and shell middens. Base of third mound. yielded date of A.D. 875 ± 60.	N/A

(continued)

Table 8-1. continued.

SITE NO.	SITE NAME	COMPONENTS	SIZE (ACRES)	SITE TYPE	CATEGORY
16 TR 42*	Bayou De Cade	early to late Miss. (McIntire 1958:PL. 13)	?	Shell midden	N/A
16 TR 51	Johnson School	middle to late Miss. (Altschul 1978:113)	?	Shell midden	N/A
16 TR 52	Bayou Du Large	late C.C. (?), early to late Miss. (Altschul 1978:113- 120)	ca. 1.8	Series of shell middens	N/A
16 TR 77*	Little Carceno Bayou	late Baytown to early C.C. (McIntire 1958:PL. 13). Note: Larto Red, French Fork Incised, <i>Mazique</i> and <i>Pontchartrain</i> suggest late Baytown to early C.C. components, and probably were identified correctly. Churupa Punctated should be ignored, since McIntire usually identified that type incorrectly.	3.0	Shell midden on possible beach ridge	N/A
16 TR 82	Richieu Field	late Baytown, early C.C., A.C.W. (Weinstein et al 1978:199-203)	?	One pyramidal earth mound and associated village area, historic plantation	N/A
16 TR 83	Chene I	early to late C.C., early to middle Miss. (Gibson 1978b:140-141)	?	Shell midden	N/A
16 TR 102	Plumb Island Point	late C.C. (Gibson 1978b:179)	?	Shell midden	N/A
16 TR 104	Chene Cut-Off	late Baytown or early C.C. (Gibson 1978b:141-143)	?	Shell midden	N/A

(continued)

Table 8-1. concluded.

SITE NO.	SITE NAME	COMPONENTS	SIZE (ACRES)	SITE TYPE	CATEGORY
16 TR 105	Muddy	late C.C., early to middle Miss., P.M. (Gibson 1978b:143-145)	?	Shell midden or series of middens, historic camp	N/A
16 TR 106	Egg	late C.C., P.M. (Gibson 1978b:145-149)	?	Shell midden, historic camp	N/A
16 TR 107	Chene II	post-Tchula, P.M. (Gibson 1978b:149-150)	?	Shell midden, historic camp	N/A
16 TR 108	Treestump	post-Tchula (Gibson 1978b:151)	?	Shell midden	N/A
16 TR 109	Underwater	post-Tchula (Gibson 1978b:153)	?	Shell midden	N/A
16 TR 110	Bulldozer/Lily Boom Cut-Off	late Marksville, undrift. Baytown, late C.C., early to middle Miss., P.M. (Gibson 1978b:153-157)	?	Shell midden, historic camp	N/A
16 TR 114	Good Land Sawmill and Black Residential Area	P.M. (Whelan and Pearson 1988)	?	Sawmill	N/A
16 TR 116	Donner Sawmill Residential Area	P.M. (Casulle et al. 1979)	?	Sawmill residential area	N/A
16 TR 117	Tiger Bayou East	P.M. (Casulle et al. 1979)	?	Houses	N/A
16 TR 118	Tiger Bayou West	P.M. (Casulle et al. 1979)	?	Houses	N/A
16 TR 119	Bayou L'Ourse	P.M. (Casulle et al. 1979)	?	Unknown structures	N/A
16 TR 121	Donner Sawmill	P.M. (Casulle et al. 1979)	?	Sawmill	N/A

*Note: Sites 16 TR 42 and 16 TR 77 are the only sites for which McIntire's ceramic counts are used without the authors either having their own collection or having reviewed McIntire's original collection.

Poverty Point and Tchula Interval (1,000 B.C. to A.D. 1)

There is only limited information on a few sites from this interval (Plate 4), but what there is can be considered new and exciting. As noted earlier, the discovery of the Poverty Point period components at Bois d'Arc #1 and #2 (16 TR 211 and 212) was simply a matter of chance, but it allows for the recognition of some very early channels in an area where they were not thought to exist.

Specifically, during the early portion of this interval, which probably can be related to the late Poverty Point period (ca. 1,000 to 500 B.C.), the study area was the location of several relict channels related to the Teche-Mississippi which had been active between about 5800 and 3900 B.C. The northern portion of the region was dominated by the ancient trunk channel of the Mississippi River with its broad and stable natural levees. Within it flowed the Red River, which had built smaller natural levees within the abandoned Mississippi course. The Red River had earlier been tributary to the Teche-Mississippi but remained within the old channel when the Mississippi shifted its course to the eastern part of the alluvial valley.

The Red River, here identified as the "Teche-Red," continued to send flow down the ancient Teche-Mississippi course at least as far east as Houma, and probably beyond. Old Teche-age distributary channels, such as Cocodrie, Piquant, and Penchant received flow from the Red. Bayous Shaffer and Chene, along with the Lower Atchafalaya River also were likely recipients of Red River discharge. The possible beach-ridge features were already in existence, and formed a northeast to southwest line across the study area, from Congo Island located just west of present-day Lake Theriot to Crochet's Island situated north of Carencro Lake. A similar system also was present to the west, and today can be seen by the remnant of Deer Island and a dredged, unnamed shell midden located to the northeast. Other elements in this system may lie buried in the marsh between the Lower Atchafalaya River and Bayou Penchant, or have been destroyed by shoreline transgression of Atchafalaya Bay.

In the eastern part of the study area, the situation is somewhat unclear, and it currently is difficult to identify the genesis of the Turtle Bayou distributary. Two possibilities exist. One possibility, and the one favored here, is that the Turtle Bayou distributary began as a crevasse channel emanating from the Teche-Mississippi at a point just southwest of Houma. This channel has been discussed in some detail earlier in the review of the Bayou du Large/Marmande Plantation site (16 TR 19). Smith et al. (1986:Pl. 44) identify this distributary as a Lafourche-age channel that heads southeast until it is masked by more recent sediment of the du Large distributary. Immediately south of Theriot, Smith et al. (1986:Pl. 50) illustrate two channels extending from the western edge of the du Large natural levee, but not necessarily emanating from the du Large distributary proper, and heading in a west-southwest direction. These channels are cut and partially masked by subsequent activity related to the Marmande distributary, but most likely continued in a west-southwesterly direction, where at least one channel apparently was responsible for the initial creation of Turtle Bayou. It is interesting to note, as well, that both Smith et al. (1986:Pl. 50) and McIntire (1958:72) indicate the possibility that a prominent pre-du Large channel exists along the west side of du Large, from a point just south of the northern boundary of Section 31 to just north of the mound at 16 TR 19. This channel may actually be the connecting link between the crevasse off the Teche-Mississippi and the two channels heading west-southwest to Turtle Bayou.

The second possibility is that the Turtle Bayou distributary actually is the lower portion of the Cocodrie distributary. The latter channel is clearly a Teche-age feature that has been cut by the more recent, Lafourche-age Mauvais Bois distributary. Prior to the arrival of the Mauvais Bois channel, the Cocodrie distributary may have swung to the southwest, forming Turtle Bayou.

The uncertainty regarding the origin of the Turtle Bayou channel is unfortunate as it is the natural levees of that channel that supplied the land upon which the earliest sites in the region were situated. Clarifying the true origin of the Turtle Bayou course should, therefore, be recognized as one of the goals for future research.

In any event, the two sites are, as noted, Bois d'Arc #1 (16 TR 211) and Bois d'Arc #2 (16 TR 212). Both probably contain late Poverty Point period components, and at least one (Bois d'Arc #2) was almost entirely represented by remains of a dredged earth midden. Augering and dredging records indicate that the sites were situated between 6 and 8 ft below the present marsh surface. Because of the conditions under which the sites were found, it is difficult, if not impossible, to identify original size and function of each. Considering that shellfish remains were not prevalent at Bois d'Arc #2, it may be possible that that site, at least, was a small village area, as opposed to an extraction locale. Similarly, it is possible that Bois d'Arc #1, with its *Rangia* and oyster midden, was the collecting station for the village.

As noted in the site description for Bois d'Arc #2, the fact that these two Poverty Point components are present in the Terrebonne marsh region indicates that others must be present as well. The natural levees of the channels identified on Plate 4, along with the possible beach-ridge feature, would be logical places for such sites to have existed, and it is likely that additional Poverty Point sites will be recorded. One of the nagging questions regarding the two Poverty Point components is their relationship to the Beau Rivage and Rabbit Island phases to the northwest and west. Defining such a relationship will have to await further investigations, however, and the identification of additional Poverty Point sites in the intervening regions.

During the latter portion of the interval currently under review, several geomorphological changes are believed to have occurred. First was the diversion of the Red River through Moncla Gap north of the Avoyelles Prairie (Pearson 1986), thus eliminating much, if not all, of the Red River's flow down the old Teche-Mississippi course. Second was the arrival of the distal ends of several of the initial Lafourche-Mississippi channels. These include the Little Black, Terrebonne, and Blue courses shown on Plate 4. Eventually, these courses would breach the old Teche-Mississippi levee near Houma, eliminate most evidence of the earlier system and reoccupy a portion of it.

Tchula period sites, all of the Tchefuncte culture, can be found on the same Teche-age channels noted earlier in this section. Most have only produced one or two sherds of Tchefuncte pottery in assemblages dominated by later occupations; however, the Bois d'Arc #1 site (16 TR 211) has yielded an excellent Tchefuncte assemblage similar in many respects to that from the Beau Mire site in Ascension Parish (Weinstein and Rivet 1978).

Two of the Tchefuncte components, Pennison (16 AS 16) and Bayou Caroline (16 AS 36), are situated on the old Teche-Mississippi trunk channel and probably can be related to occupation associated with the later Teche-Red natural levees. Two more components at Bayou de Cade (16 TR 31) and Lake Pagie (16 TR 28) help confirm the earliness of the Turtle Bayou distributary, particularly along its lower reaches. The final component at the St. Paul Bayou site (16 TR 60) is related either to a distributary emanating from the Teche-Red (the "Orange Grove" channel) or a crevasse off the Cocodrie channel. Smith et al. (1986:Pls. 43, 44, 49, 50) appear to imply that the Cocodrie option is more viable as the channel is wider nearer Cocodrie, and narrows to the northeast away from the Cocodrie channel. They do not, however, indicate a direct connection between the two channels, suggesting that the origin of the smaller channel is open to question. From a paleogeographical point of view this is important, as Smith et al. (1986:Pl. 44) indicate both the Orange Grove channel and the possible Cocodrie crevasse channel as Lafourche-age features. Clearly, this is unlikely, as they would have to be very, very early Lafourche distributaries to have supported a

Tchula period occupation. Since the Orange Grove channel is relatively well preserved, and, in fact supports the post-Tchula period, Starling Bergeron site (16 TR 194), it would seem to be related to the Lafourche system. Thus, the Cocodrie connection becomes the more likely option. Nevertheless, both possibilities are shown on Plate 4.

Unfortunately, as with the Poverty Point period components, there is little cultural data available on the Tchula components present. All but Pennison (16 AS 16) and Bayou Caroline (16 AS 36) can probably be associated with the collection of *Rangia* and the additional exploitation of other aquatic resources. In fact, as noted previously, the date of 170 B.C. on oyster shell from Bois d'Arc #1 (16 TR 211) indicates that the Turtle Bayou channel was not receiving a great deal of freshwater during the late Tchula period. Thus, support for anything other than small-scale collecting stations would seem to be unlikely. Pennison and Bayou Caroline, on the other hand, situated as they are on the relatively high natural levees of the Teche-Red, would have been ideal locations for villages. Unfortunately, the Tchefuncte assemblages from these sites are quite meager, and, given their probable destroyed condition, the true situation may never be known.

Marksville Interval (A.D. 1 to A.D. 400)

Two major geological episodes dominated this interval (Plate 5). The first, already discussed, was the diversion of the Red River through Moncla Gap north of Marksville. Thus, the Red no longer flowed down the old Teche-Mississippi channel. Rather, the channel became the path for a much-reduced drainage system, and a stream not very different from that of present-day Bayou Teche.

The second was the full arrival of the Lafourche system, represented by several of its earlier distributaries: Little Black, Terrebonne, Little Coteau, and Blue. Of extreme importance to the present study is the Little Black course, which broke through the ancient Teche-Mississippi levees near present-day Houma, reentered the former channel, and sent flow westward through what has been termed the Black course, in a reverse direction than that which had been present previously. This flow probably reached as far as Bayou Shaffer and the Lower Atchafalaya River, at which point it followed those courses to the Gulf. The overall effect was to raise and expand the former Teche-Mississippi natural levees at least as far westward as Humphreys, and probably further.

On a more dramatic note, however, the Little Black/Black course sent out numerous distributary channels into the northeastern portion of the study area. Chief among these was the du Large course, today occupied by Bayou du Large. Another prominent distributary has been identified as the Mauvais Bois course. Natural levees created by this course are primarily responsible for the high ground of today's Waterproof Point. The Mauvais Bois course extended southwest, eventually reoccupying a portion of the lower Turtle Bayou distributary. Other important distributaries emanating from the Little Black/Black course included those identified here as the Sunrise, Waterproof, and Orange Grove courses. The latter may have reoccupied the earlier crevasse off the Cocodrie distributary, although, as noted above, the situation is far from clear, while the Waterproof course helped form a part of Waterproof Point.

Elsewhere, older Teche-age channels, such as Penchant, Piquant, Cocodrie, and the upper reaches of the Turtle Bayou course, began to subside at somewhat increased rates as they no longer received flow from the Teche-Red. Those in the western portion of the study area still received some freshwater, however, principally as derived from the Little Black/Black and Teche courses.

Several aboriginal sites were present in the area during the Marksville period. Three, St. Paul Bayou (16 TR 60), Bayou De Cade (16 TR 31), and Lake Pagie (16 TR 28), were at

locations that previously contained minor Tchefuncte components. The component at St. Paul Bayou was very early in the period, while the occupation at Bayou De Cade spanned both the early and late portions of the period. That at Lake Pagie could not be accurately dated within the Marksville period.

Elsewhere, initial-occupation Marksville period components developed, and several were on landforms not previously occupied by Tchula period inhabitants. In the northeast portion of the study area, several sites can be related to crevasse channels (Waterproof and Sunrise courses) emanating from the Little Black/Black course. Principal among these are Mandalay Plantation (16 TR 1) and Waterproof Point (16 TR 73), where early Marksville components have been identified, and Sunrise Field (16 TR 197), where a late Marksville component was discovered during the present study. Both Sunrise Field and Waterproof Point were *Rangia*-collecting locales, while Mandalay Plantation was a probable village site of unknown size. The latter locale reportedly contained a single mound, which may have been of Marksville age, although this cannot be confirmed as the site contains later Baytown and Coles Creek period assemblages.

The Bayou Mauvais Bois site (16 TR 70) contained an early Marksville component similar to that at St. Paul Bayou, and the two sites may have been associated with the same crevasse (Orange Grove course) off the Black course. As noted previously, however, the actual connection between the Orange Grove course and either the Cocodrie or Black courses is not known. Similarly, the exact location of 16 TR 70 has not been determined.

Southwest of 16 TR 70 was the Lake Penchant site (16 TR 4), where a minor late Marksville assemblage has been recorded. This component marks the earliest definite occupation so far noted on any of the possible beach-ridge features, although, as suggested earlier, it is likely that Tchula, Poverty Point, and perhaps Late Archaic components will eventually be found at the features.

In the northern and northwestern portions of the study area, a group of seven sites with Marksville components was present on the old Teche-Mississippi and Teche-Red natural levees. Chief among these is the Gibson Mounds site (16 TR 5), situated at the junction of Bayou Black and Tiger Bayou, the latter feature almost certainly representing a Teche-age crevasse channel. The site has produced a modest amount of both early and late Marksville ceramics (Weinstein et al. 1978:168-198), some of which reportedly came from overbank midden deposits intermixed with Red River sediment (McIntire 1958:64). While this fact was used by McIntire (1958:63-64) to suggest that the Red River was flowing within the old Teche-Mississippi channel during Marksville times, it seems more likely that the Red already had diverted through Moncla Gap, and that the Marksville/Red River association at Gibson actually indicates that Marksville artifacts were deposited in the old channel and came to rest upon, and became incorporated within, the Red River sediment already present.

Whatever the case, the Gibson Mounds site is important, not so much for its Marksville occupation, but for its subsequent development as a major village during Baytown, Coles Creek, and Mississippi times. Whether it served as a large village during the Marksville period is uncertain, as the overall extent of the Marksville occupation at the site is not known. Gibson, therefore, is shown simply as a small site on Plate 5, although it should be kept in mind that it may have been somewhat larger and more significant at that time.

The other sites in the northwestern portion of the region included several *Rangia*-collecting locales, which may have had associated small hamlets during late Marksville times. This is particularly likely for Greenwood Cemetery (16 SMY 19), La Coup (16 SMY 146), and Avoca Plantation (16 SMY 130), all of which were located on the high, broad levees of the Teche-Mississippi and/or Teche-Red. Oak Chenier (16 SMY 49) should be noted for the

possible late Marksville burial uncovered by the 1978 USL survey crew; the only confirmed burial excavated by archeologists in the entire Terrebonne marsh area.

Baytown Interval (A.D. 400 to 700)

The landscape within the Terrebonne marsh area during the Baytown period was relatively unchanged from that of Marksville times (Plate 6). Of note, however, was the development of two crevasse channels emanating from the du Large course. These include the Marmande course, which initially headed northwest from present-day Theriot, and then made an abrupt turn to the west-southwest, eventually winding its way over the relict Turtle Bayou course at which point it made a dramatic turn to the north. At its distal end, the course apparently breached the older levees of the Mauvais Bois course west of Lake Theriot, contributing its flow to the lower reaches of the overall Mauvais Bois system. The combined flow from both the Mauvais Bois and Marmande distributaries was, thus, the probable impetus behind the myriad of lesser, branching distributaries that developed at the lower end of the Mauvais Bois course west of Lake De Cade.

Slightly farther down the du Large course, the second prominent crevasse channel believed to have been formed during Baytown times emerged in the guise of the Small La Pointe course. According to Smith et al. (1986:Pl. 54), this channel can be traced westward as far as Lake Pagie, and may actually have continued on, having cut through the lower portion of the Turtle course, as another similar channel is shown following the same general trend west of Lake Pagie (Smith et al. 1986:Pl. 53). Given the uncertainty of the situation, however, Plate 6 simply shows the Small La Pointe course terminating at Lake Pagie.

Elsewhere in the study area, flow continued down Bayou Black, entering by way of Little Bayou Black, with concomitant, probable intermittent, flow continuing down the Waterproof, Sunrise, and, as noted, the Mauvais Bois, courses as well. Similarly, freshwater still would have flowed down the old Teche-age distributaries of Penchant, Piquant, and Cocodrie, although it, too, would have been intermittent and not enough to maintain levees along those streams. Thus, with subsidence, these courses would have become less and less likely areas for human occupation. Similarly, as the entire region continued to subside, particularly in the western area where active levee building had ceased with the abandonment of the Red River in the old Teche-Mississippi channel, the distal ends of distributaries became unsuited for habitation, and the elevated ground along the larger Teche-Mississippi trunk channel became narrower.

The general distribution of Baytown period sites, as with that of the preceding Marksville period, indicates two main regions of settlement. In the eastern portion of the study area, previously established locales such as Mandalay Plantation, Waterproof Point, Sunrise Field, Lake Penchant and Turtle Bayou (16 TR 50), continued to be occupied. All but Mandalay Plantation were probable extraction locales. Mandalay Plantation may have been a small village with a mound, although, as noted earlier, it is impossible to determine the age of the mound. Lake Penchant, based on its relatively large size, might have served as a base camp or small village, but the destruction of the locale by past shell-mining activity makes such a possibility impossible to prove.

Several initial-occupation Baytown period sites in the eastern study area are important from a paleogeographical point of view. The Bayou du Large site (16 TR 53), located along the lower reaches of the du Large course, indicates that du Large had finally become an acceptable place to live as it no longer was receiving a large amount of flow from Bayou Black. Bayou Penchant II (16 TR 76), Little Carencro Bayou (16 TR 77), and Carrion Crow Lake/Crochet's Island (16 TR 66) attest to expanded Baytown period utilization of the possible

beach-ridge features west of the Mauvais Bois course. As with the Lake Penchant site, although these features are relatively extensive deposits of shell, it is not possible at present to equate any of the identified components with a particular area of occupation. Thus, a determination of site size at any one given time cannot be provided.

Two additional eastern sites are worthy of mention. Teles Island (16 TR 43), although now almost entirely destroyed by shell dredging, contained a moderate amount of apparent late Baytown period ceramics, possibly indicative of a small village. Again, however, the destroyed nature of the site probably precludes any chance for a definite interpretation. The site also is noteworthy as one of several locales related to the eastern end of the old Turtle Bayou distributary. Its presence indicates that levees of that course had not subsided to the point of uselessness as an occupation area, and that additional Baytown period sites may be associated with it.

The second site of note in the area is St. Eloie Plantation (16 TR 3), situated somewhere along the Marmande course. Although the Baytown component there cannot be assigned to a position either early or late within the period, it does indicate further usage of the area during that time.

The northern and northwestern portions of the study area contain the second group of sites present during the Baytown period. All are associated with the ancient Teche-Mississippi or Teche-Red natural levees. Several, such as La Coup, Greenwood Cemetery and Oak Chenier, represent continued occupation at sites earlier settled during the Marksville period. Others, such as Byrd Extension (16 SMY 63) and New Oil Location (16 SMY 62), were initial-occupation locales. All primarily were shellfish extraction locales, although, as noted, those on the ancient Teche-Mississippi trunk channel may have had small villages present nearby.

Two of the sites, Gibson Mounds and Richeu Field (16 TR 82), are interesting in that both contain mounds. Gibson has three, two of which are prominent pyramidal structures, while the other is low but also pyramidal. Richeu Field has one, a low pyramidal feature that 14 years ago was in an excellent state of preservation (Weinstein et al. 1978:199-203). Unfortunately, none of the mounds at either site can be directly linked to the Baytown components present at each. The subsequent Coles Creek and Mississippi period components at Gibson, and the Coles Creek component at Richeu Field, seem more likely candidates for the mound construction. Nevertheless, the possibility exists that both sites had low pyramidal mounds during Baytown times. In fact, even if a mound, or mounds, was not present at Gibson during Baytown times, the site almost certainly had become a major village. If mounds were present, then it is possible that Gibson was the primary center of the entire Terrebonne marsh region.

Coles Creek Interval (A.D. 700 to 1200)

The physical appearance of the study area during Coles Creek times (Plate 7) was almost an exact duplicate of that during the preceding Baytown period. Only minor subsidence along the lower reaches of most of the area's streams, coupled with the narrowing of the region's natural levees brought on by similar subsidence, would have played a role in determining suitable places for habitation. As it is, no new watercourses were present, and, thus, all initial occupation sites developed on previously extant landforms.

The settlement dichotomy noted previously between locales in the eastern and northwestern portions of the study area continued to hold sway, although a few outlying sites, such as Deer Island (16 TR 88/103), Plumb Island Point (16 TR 102), and Bayou Black (16 TR 78), provide evidence of expanding utilization of much of the region. Only the central

area, comprising the middle reaches of the Penchant, Piquant, and Cocodrie courses, was devoid of sites. This area had earlier lacked sites, as well, but such a pattern is particularly obvious on the Coles Creek and subsequent Mississippi period paleogeographical plates. On these, the overall quantity and relative density of sites is such that any unoccupied area becomes fairly conspicuous. Presently, it is uncertain exactly why no sites are present in the central area, but it is a topic that deserves greater study. Perhaps the ancient Teche-age channels have subsided to such an extent that any sites associated with them are beyond the reach of canal dredging.

In the eastern portion of the study area, occupation continued at several of the sites earlier discussed, although the reader should be warned that many of these had components that were identified as either late Baytown or early Coles Creek, or possibly both (see Table 8-1), and that the data were not sufficient to allow for a more specific identification. To compensate for this problem, the sites have been shown on both the Baytown and Coles Creek plates. A similar situation also can be noted for the late Coles Creek-early Mississippi continuum. In several cases it was not possible to clearly sort one culture period from the other. Thus, sites that could be either late Coles Creek or early Mississippi in age are shown on both plates. While this procedure may slightly inflate the total number of components present, it does not alter the overall interpretation, as the total amount of time in question is only on the order of between 50 and 150 years.

In any event, sites with continuing occupation in the eastern area included Mandalay Plantation, which almost certainly had a mound present by mid-Coles Creek times, Sunrise Field and Waterproof Point, probable extraction camps possibly related to the more-permanent village at Mandalay Plantation (although the components do not quite match for Mandalay and Sunrise Field, this is certainly a reflection of small sample size), and several of the beach-ridge locales (Lake Penchant, Little Carencro Bayou, and Carrion Crow Lake). Two sites along the old Turtle Bayou course, Rangia Lake and Lake Pagie, also continued as favorite fishing and shellfish-collecting locales.

The most striking aspect of the settlement, however, is the relatively large percentage of initial-occupation sites. This is especially noticeable along the du Large and Small La Pointe courses where seven late Coles Creek period sites (16 TR 8, 20, 52, 56, 58, 71, and 75) were occupied for the first time. Clearly, after several hundred years of existence, these two courses had finally become highly favorable settlement locations. Site 16 TR 56 is of further importance because of the excellent late Coles Creek radiocarbon date of A.D. 1180 obtained on *Rangia* collected from the site's midden during the course of the present study. All of these sites probably served as small, seasonal camps, most likely utilized in warm-weather months, to exploit the aquatic resources of the area.

Two of the possible beach-ridge features (16 TR 65 and 201) were occupied for the first time during the mid to late Coles Creek period. Particularly interesting is the Carrion Crow Bayou/Lovell Island site (16 TR 65), where a small pyramidal shell mound is located on one corner of the ridge. This suggests something other than a simple, small-scale extraction locale. Perhaps the site served as the summer base camp of the local tribal leader, who moved to one of the region's larger natural levees during the winter where a better-protected village, such as that at the Bayou du Large/Marmande Plantation site (16 TR 19), would have been situated.

A similar situation may have obtained at the Marmande Ridge site (16 TR 49), where another small, pyramidal shell mound was recorded during the present study. Although no diagnostic artifacts are known from the site, it seems reasonable to assume that it was occupied during either the Coles Creek or Mississippi periods. Nearby shell middens (16 TR 50, 192, and 202) on the Mauvais Bois and Marmande courses may have served as collecting stations or

small hamlets that were tied, in some manner, to the head man who presumably resided at 16 TR 49.

Certainly the largest village in the eastern portion of the study area was at the Bayou du Large/Marmande Plantation site (16 TR 19). Its position near the junction of the du Large and Marmande courses gave it both a relatively wide set of natural levees on which to develop and a commanding location from which to control access to the two courses. From this, then, it may be inferred that the site served as the principal village in the eastern study area, although, as will be seen, it may have been subordinate to larger and more domineering sites situated either on the broader natural levees of the ancient Teche-Mississippi to the northwest, or on Lafourche-age natural levees to the north and east.

How the site functioned in the overall seasonal settlement pattern is not known. As guessed earlier, it may have acted as the wintering camp for the peoples who utilized the numerous extraction locales in the marshes to the west, and, as such, may have been the home for the lesser tribal leaders who resided at the area's small mound sites. Based on the probable importance of the locale, however, it seems just as likely that it was occupied year round, probably by a reduced population during the warmer months, and that the area's principal leader would have remained there to maintain his control over the region.

The mound site at Mandalay Plantation, along with the possible mound near Bayou Black (16 TR 78), may have been tied to the tribal leader residing at 16 TR 19, as well, although their locations on the old Teche-Mississippi trunk channel suggest closer ties to the Gibson Mounds to the west-northwest. Small hamlets or villages associated with the mound center at Mandalay Plantation most likely included Waterproof Point Field (16 TR 215) and Waterproof Distributary (16 TR 213), while extraction locales were present, as noted, at Sunrise Field and Waterproof Point. Similar villages and extraction locales undoubtedly were present around the mound near the Bayou Black site, although only the shell midden at Bayou Black proper presently is known.

Occupation in the northwestern portion of the study area also was marked by a wealth of initial-occupation sites. These were principally located along the natural levees of the Teche, Black, Chene, and Shaffer courses. While most of these sites were small-scale fishing or shellfish-collecting stations, several, such as Oak Chenier (16 SMY 49) and Bayou Chene (16 SMY 20), are composed of relatively large middens or sets of middens, indicating fairly long and intensive utilization. One of the largest definite Coles Creek villages developed at the Goat Island site (16 SMY 1), where a shell midden and associated occupation area have been estimated to cover over 17 ac (area based on extent of site reported in Goodwin et al. 1985a:98-110).

West of present-day Berwick Bay, along the Teche-Mississippi natural levee, two probable Coles Creek villages were present at the Berwick Mounds site (16 SMY 184) and the combined sites of Fairview Plantation Mound (16 SMY 148) and Fairview Plantation Midden (16 SMY 108/149). Although neither site has produced artifacts diagnostic of the Coles Creek period, it is inconceivable that mound sites undoubtedly utilized in the succeeding Mississippi period would not have had their beginnings at least as early as Coles Creek times. In fact, it might not be stretching the small amount of available data too far to suggest that the Berwick Mounds site was the predominant mound group in the area, perhaps emulating the paramount position, to be discussed below, that it undoubtedly attained in the Mississippi period.

Although the situation at the Berwick Mounds and Fairview Plantation sites is far from clear, that at the Gibson Mounds cannot be denied. Clearly, the site was a major village with multiple, pyramidal mounds during all of the Coles Creek period. Depending on the situation at Berwick, Gibson either was the principal village of the entire Terrebonne marsh region or it

stood on an equal footing with the Berwick Mounds. Whatever the case, it certainly dominated the old Teche-Mississippi natural levees for that stretch of the ancient trunk channel east of Lake Palourde. Single-mound sites, such as Richeu Field (Weinstein et al. 1978:199-203) and Pennison, were most likely subordinate to the main power center at Gibson where the paramount tribal leader or chief undoubtedly resided. Other mound sites, such as Bayou Black, Mandalay Plantation, and Bayou du Large/Marmande Plantation, may also have been under Gibson's control, although these were located slightly farther away from the main mound center. In fact, the actual paramount village related to these sites could have been either at the Bergeron School site (16 LF 33), a village with two pyramidal mounds situated on the Blue course just east of the edge of the map area on the plate (Altschul 1978:41-51), or at the Bayou la Carpe site (16 TR 38), another village which once contained three pyramidal mounds located on Bayou Grand Caillou (Altschul 1978:77-83), again located off the plate to the east. Both sites have yielded collections predominated by later Mississippi period, Plaquemine culture ceramics, although minor amounts of Coles Creek period wares were present, and it is likely some of the mound construction began during Coles Creek times.

In any event, the following summary may be offered regarding the possible site hierarchy present within the Terrebonne marsh area during the Coles Creek period. Whether the hierarchy represents actual social stratification is uncertain. Given that a probable chieftain-level society was attained in the following Mississippi period, it seems likely that some stratification was present during Coles Creek times.

Thus, at the top of the site hierarchy were the multiple-mound sites. Within the study area, these included the Gibson and Berwick Mounds, while to the east and northeast may have been the Bergeron School and Bayou la Carpe sites. Each of these sites probably contained the residences of a prominent tribal leader (or chief), a priest or priests, and other notable personages. These individuals most likely resided atop the various mounds, either in dwellings, charnel houses, or temples. Near the mound center were the cabins of the villagers, most of whom may have followed a form of seasonal transhumance, congregating at the main village during the cold-weather months, but moving out into the swamps and marshes to live at base camps and small-scale extraction locales during the warm-weather months.

Each of the prominent mound centers controlled a specific natural levee system or series of systems, along which were located the next level of sites found in the overall site hierarchy: single-mound villages. One of these, Bayou du Large/Marmande Plantation, because of its size and strategic location, may actually have held an intermediate position between the multiple-mound villages and the smaller, single-mound sites. As noted earlier, it may, in fact, have maintained control over the two mound sites, Marmande Ridge and Carrion Crow Bayou/Lovell Island, situated in the marshes to the southwest.

Other single-mound sites included Mandalay Plantation and Bayou Black. These may have been tied to either the Gibson Mounds or Bergeron School, although communication with the latter village would have been more difficult, despite its relative nearness, since a straight-line route connecting the two sites would have required crossing two interlevee swamp and/or marsh areas situated between the Blue, Little Coteau, and Terrebonne courses. Of course, a circuitous trip up the levees of either the Little Black or Terrebonne courses and then down those of the Blue course, would have allowed access to Bergeron School, but the distance required for such a journey would have been greater than that required to travel to the Gibson Mounds. By extension of this reasoning, therefore, it also can be argued that Gibson would have controlled the Bayou du Large/Marmande Plantation village along with the latter's satellite settlements.

Near Gibson itself, two additional single-mound sites, Richeu Field and Pennison, undoubtedly served as outlying villages. In the western part of the study area, only one

single-mound site, Fairview Plantation Mound, can be linked to the Berwick Mounds site, also as an outlying village.

The next level recognizable in the Coles Creek site hierarchy is that of nonmound villages or hamlets. Almost all of these are situated on prominent natural levees of the old Teche-Mississippi trunk channel, although several of the extensive beach-ridge features may qualify as well. The Goat Island site was by far the largest areally, although it appears to be an exception, and most of the sites were on the order of 1.5 ac or less. Examples include Waterproof Point Field, Waterproof Distributary, Bayou Ramos I (16 SMY 133), Greenwood Cemetery, La Coup, and possibly Bayou Chene and Oak Chenier, although the latter two sites may have been simply large shellfish-collecting locales.

The final level recognized in the site hierarchy consists of the extraction locales. These probably were seasonal camps, occupied for relatively brief periods of the year during warm-weather months, at which time the local economic resources of a given area were exploited. Most prominent among these sites are the numerous shell middens situated throughout the swamps and marshes of the study area. Several, such as Turtle Bayou, are quite large, and suggest repeated visits over a period of hundreds of years. Others, however, such as several of the Bayou Ramos sites, are modest affairs which probably represent only a few years of useage. It also is important to remember that these extraction locales were not simply shellfish-collecting stations, but also served as fishing and hunting camps. In fact, it has been argued (Byrd 1974, 1976, 1977) that shellfish were not the primary resource exploited at these sites, but only the most conspicuous. While this may or may not have been the case, it is clear that such sites were utilized for the procurement of a number of aquatic and terrestrial species of animals, not to mention floral species whose remains fail to survive as part of the archeological record.

Mississippi Interval (A.D. 1200 to 1700)

As with the preceding two periods, little had changed in the way of geomorphological features between the Coles Creek and Mississippi intervals (Plate 8). No new landforms developed, and those already present continued their slow process of decline due to subsidence and reduced riverine discharge. In fact, what discharge there was came principally down the Lafourche and Atchafalaya systems only during periods of high water in the Mississippi, or down Bayou Teche when the local drainage basin had received significant rainfall.

This general decline may be reflected in the archeological record, as well. A drop in total number of sites occurred between the Coles Creek period, with a peak of 62 sites represented, and the Mississippi period, with 53 sites recognized. The drop is more pronounced, in fact, if one realizes that of the 53 Mississippi period sites, only 20 had components related to the middle and late portions of the period, while 33 components can be tied to the early part of the period. Not to belabor the point, but further support for a decline in site utilization in the study area during the Mississippi period, comes from the presence of only two initial-occupation, late Mississippi period sites, Small Bayou La Pointe (16 TR 204) and Avoca Island (16 SMY 125), and both of these age assessments are based on very small collections.

Despite this overall decline, there still were several important sites occupied during the earlier portion of the period, and all of these can be tied directly to the local representation of the Plaquemine culture. In the eastern part of the study area, the most conspicuous single-component, early Mississippi period, Plaquemine culture locale was at the Altschul site (16 TR 218), a moderate-size village almost certainly related to the adjacent mound center at the Bayou du Large/Marmande Plantation site. Another site with an early Mississippi period component and a single pyramidal mound possibly related to that component was Bayou

component and a single pyramidal mound possibly related to that component was Bayou Penchant I (16 TR 47), one of the possible beach-ridge locales that would have been large enough to have supported a small village.

In the northwestern portion of the study area, no new and impressive initial-occupation sites were present, but several villages of modest size are probably represented by the Thibodaux site (16 AS 35), located on the east side of present-day Bayou Boeuf, and by the combined remnants of the Aucoin I and II sites (16 SMY 142 and 143), situated on the west side of the same bayou. Similarly, sites along the north edge of Avoca Island, such as the Avoca Island #1 (16 SMY 178), and several nearby sites which have yet to produce diagnostic artifacts, may all collectively have formed portions of a moderate-size village. At the western edge of the study area was Deer Island (16 TR 88/103), another relatively large, possible beach-ridge feature, that supported what may have been a modest-size, early Mississippi period, Plaquemine culture village.

All of these sites pale in comparison, however, to the great mound center at Berwick, which by the early to middle Mississippi period had almost certainly become the paramount village in the entire region. It also is almost certain that a chieftain-level society had finally taken hold within the region, and that the paramount chief would have resided at Berwick. The site location is ideal for controlling both east-west access along the natural levees of the old Teche-Mississippi trunk channel, and north-south routes up and down the Lower Atchafalaya River and into the Atchafalaya Basin.

It may not be too far-fetched at this point to suggest that the Berwick site was the center of prehistoric and protohistoric Chitimacha society. It is known, for instance, that the historic Chitimacha had a stratified social structure with ranked classes within that structure (Swanton 1911:348-349; Gibson 1978c). Given that the historic representation of this stratification was almost certainly a diluted version, brought about by population decline and movement following the coming of the French into Louisiana, it seems reasonable to suggest that a much stronger, highly stratified society existed prior to historic contact. With the recent revitalized interest in Hernando De Soto and other early Spanish explorers (Brain 1985; DePratter et al. 1985; Hudson 1985; Hudson et al. 1985, 1990), it is interesting to speculate on the situation at Berwick and its environs if one of these early explorers had happened past. Instead of glowing descriptions of the provinces of Anilco, Guachoya, and Quiqualtam, we would be reading about the great province of Chitimacha, located in a region of vast swamps and marshes, with its cacique living on one of the four mounds at the province's principal village. Surrounding the principal village would have been satellite villages with subordinate caciques who owed allegiance to the paramount cacique.

This speculative model, therefore, can be used to assess what may have been the actual situation within the Terrebonne marsh region during the Mississippi period. Although speculative, it is not altogether different from the known situation in adjacent areas of the southeastern United States and, in particular, the Lower Mississippi Valley.

Thus, as noted, the paramount village was located at the Berwick Mounds, a large center with four pyramidal mounds grouped around a plaza, and including adjacent habitation and shell midden areas. Although now destroyed, the site descriptions offered by Cathcart and Landreth in 1819, along with the Williams map of 1842, as reviewed earlier in the present report, clearly identify a major mound center.

A secondary mound center, most likely under control of the Berwick group, was situated at the Gibson Mounds site. Both Berwick and Gibson also had subordinate, nearby, single-mound villages situated at the Fairview Plantation Mound and Pennison sites. The Bayou du Large/Marmande Plantation site similarly would have been dominated by the Gibson

site, for reasons already reviewed under the discussion of the Coles Creek interval. In turn, it would have controlled the single-mound sites situated in the marshes to its southwest.

For each of the mound sites, an aligned group of nonmound villages would have been present. As with the preceding Coles Creek period, such villages were located along major natural levees, particularly the Teche-Mississippi trunk channel, or on some of the larger possible beach-ridge features, such as Deer Island. Each of these, in turn, would have had particular base camps or extraction locales to which the general population or segments of the population would have moved during certain times of the year to hunt, fish, and collect shellfish and plant resources. As with the Coles Creek period, the most obvious of these are the fishing and shellfish-collecting stations represented by the numerous modest- and small-scale *Rangia* middens scattered throughout the region.

Colonial Interval (A.D. 1700 to 1803)

The principal geomorphic processes operating in the study area during the Colonial interval were subsidence and erosion. The Atchafalaya River was the major source of freshwater discharge in the area by that time, but it remained little more than a minor tributary of the Mississippi River throughout the period, and deposited most of its sediment load in the upper portion of its basin (van Heerden 1983:12). Contemporary maps suggest that the former Lafourche-Mississippi distributaries, Bayou Terrebonne and Little Bayou Black, were cut off from Bayou Lafourche by this time and were probably receiving flow only during periods of high water.

Archeological data on Colonial period settlement of the study area are virtually nonexistent, and documentary information on this period is relatively limited. Maps of the late eighteenth century show a few settlements on the lower Atchafalaya River in the vicinity of present-day Morgan City, but the remainder of the area is indicated as being unoccupied. This was undoubtedly not the case, but the number of Euro-Americans in the study area at that time was probably very small.

One of the first settlers in the Morgan City area was Thomas Berwick, Sr., a surveyor for whom Berwick Bay was named. Berwick moved there in the 1780s and was joined shortly afterward by other settlers, including Samuel Stout, Samuel Rice, Sr., Talmadge Dunleavy, and Christopher O'Bryan (later Bryant), Sr. All of these men were of Anglo-American descent and moved to the area near the end of the eighteenth century. Their holdings are shown as farmsteads on Plate 9 but it is possible that they owned small numbers of slaves and grew commercial crops such as cotton or sugarcane during this period. A sherd of faience possibly associated with the farm of Samuel Rice, Sr., was recovered from site 16 SMY 130. Other Euro-Americans, including Gregoire Aucoin and Jean Baptiste Henry, settled on Bayou Boeuf south of its junction with Bayou L'Ourse in the years just before the Louisiana Purchase. They were probably involved primarily in subsistence agriculture, but may have grown a small amount of cotton as well. Sherds of creamware possibly associated with one of these early farmsteads have been recovered from the surface of the Thibodaux site (16 AS 35) (Weinstein et al. 1978:Table 9).

Missing from the available maps are indications of Indian settlements in the area. As noted previously, Chitimacha villages were located on or near Bayou Lafourche during the early eighteenth century, but by the latter part of the century they had apparently withdrawn westward to locations on Bayou Teche. Small camps and possibly larger settlements would have been present in the study area during the first half of the eighteenth century, and some may have persisted until its end. The archeological remains of these settlements may be represented by some of the late Plaquemine assemblages found at sites in the area, but without associated European artifacts it is impossible to date these sites more precisely.

The Houmas began moving into the eastern portion of the study area during the latter half of the eighteenth century, but few of their early settlements can be identified. Oral tradition places one settlement in present-day Houma, and a claim filed with the U.S. Government in 1804 suggests that others were located along Bayou Black between Houma and Morgan City. The claim was disallowed because no documentary evidence could be located to support the Houmas' contention that the Spanish government had donated the land to them. Nonetheless, the absence of other Spanish land grants in this area suggests that the Houma were, in fact, inhabiting the area and the Spanish recognized their right to the land. East of the study area, individual Houmas received permission to settle on Lower Bayou Terrebonne in 1787 and 1788, and their titles to these lands were later confirmed by the U.S. Government (Lowery and Franklin 1834:432-433).

Antebellum and Civil War Intervals (A.D. 1804 to 1865)

Subsidence and erosion continued to be the dominant geomorphic processes in the study area, but two events that significantly altered the hydrology of the area occurred during this period. The first of these took place in 1831 when Shreves Cut-off, a man-made channel, diverted the Mississippi River out of Turnbull Bend. This removed the Atchafalaya River from direct connection with the Mississippi River and stopped the accumulation of driftwood that had produced extensive rafts on the Atchafalaya since at least the late eighteenth century (Elliot 1932:51; Fisk 1952:18). The second event, the removal of the rafts, began in 1840 and continued intermittently until 1861. As the Atchafalaya's channel was cleared, it began to carry larger volumes of water, which in turn resulted in further enlargement of the channel and more extensive overbank flooding. The consequences of these events were just beginning to be felt near the end of this period.

Settlement of the study area increased significantly during this period, but because of uneven map coverage and the limited archeological record, this is not readily apparent on Plate 9. The best information on the early portion of the period comes not from maps, but from the journals of Cathcart and Landreth, who travelled extensively through the area in 1819. By that date commercial agriculture based on slave labor was becoming established in the area. The surveyors describe several small plantations located on the relict Teche-Mississippi natural levees adjacent to the Lower Atchafalaya River and Bayou Boeuf, including those of Joseph Berwick, Christopher Bryant, Jr., and Samuel Rice, Jr., all sons of early settlers. One indication of the size of their plantations is the number of slaves, generally two to five. Cotton was still the principal crop at that time, but some of the planters were already producing small quantities of sugarcane (Pritchard et al. 1945:795). Archeological data on these early plantations are limited to a few sherds of pearlware in surface collections from the Thibodaux (16 AS 35) and Avoca Plantation (16 SMY 130) sites.

In addition to the plantations, the surveyors noted a few subsistence farms along the channel known as La Coup that leads from the southeast end of Lake Palourde to Bayou Boeuf. The remains of one of these farms have probably been found at the La Coup site (16 SMY 146), although much of the historic material there appears to date somewhat later (Weinstein et al. 1978:155-159).

Cathcart and Landreth also encountered a few small camps of Indians, probably Chitimacha, along the shores of Grand Lake, but none were noted within the present study area. Houmas families were probably living along Bayou du Large in the eastern portion of the study area by this time, but there is no information on the location of their settlements.

Throughout much of the remainder of this period, the number of plantations located within the study area increased as more of the major natural levees, particularly those along bayous Boeuf and Black, were cleared for agriculture. Sugarcane began to replace cotton as

the principal commercial crop in the 1820s, and by the 1830s, the transition was largely complete. During much of the period, the nearest communities with stores were Pattersonville, located on the Lower Atchafalaya River west of the study area, and Houma, established in 1834 on Bayou Terrebonne. A small community known as Tigerville developed at the junction of Bayou Black and Bayou Tiger in the late 1840s, and the road from Houma to the plantations in the area of present-day Morgan City ran through it. The major commercial centers for the planters of the area were Franklin, located farther up Bayou Teche, and New Orleans. Transportation to the latter city was either by schooner down the Lower Atchafalaya River and through Atchafalaya Bay into the Gulf of Mexico, or by small steamboat up Bayou Black, through a short canal into Bayou Terrebonne, then down that bayou to the Barataria and Lafourche Canal Company canal which ran on to Lake Salvador and then to the Mississippi River (Davis 1973:56-58). A lighthouse was constructed at Point Au Fer in 1826 to facilitate navigation of the bay, and the canals on the interior route were apparently constructed in the 1830s through 1850s.

A new era of transportation began in the 1850s with the construction of the New Orleans, Opelousas and Great Western Railroad. It ran from Thibodaux through Tigerville to a point on the Lower Atchafalaya River on the plantation of Robert and Thomas Brashear. There, a new community was laid out and incorporated as the town of Brashear in 1860.

By the beginning of the Civil War sugar plantations occupied most of the larger natural levees within the study area. Unfortunately, detailed maps allowing an accurate depiction of the settlement pattern are available only for the extreme northwest portion of the study area in St. Mary Parish. These are a series of maps produced by the Confederate Army late in the war (see Figure 3-3). They indicate that on most of the plantations along Bayou Boeuf the main house, slave quarters, and sugar mill were arranged parallel to the bayou on the crest of the relict natural levee. The agricultural fields ran from there down the backslope of the levee to cypress swamp. Beyond the narrow band of swamp, which provided valuable lumber for construction, were the marshes. Although not depicted on the Confederate maps, hunting and fishing camps were probably present on the smaller channels in the marshes.

Archeological data on Civil War-era plantations in the study area come from limited test excavations on Avoca Plantation (16 SMY 130) (Kelley 1988), and surface collections from Boeuf-Chene Junction (16 SMY 44), Oakley II (16 SMY 181), Glen Orange (16 SMY 182), Thibodaux (16 SMY 35), and Richeu Field (16 TR 82). Standing structures dating to this era are present at Hard Times Plantation (16 AS 34), Bayou Ramos I (16 SMY 133), and Orange Grove Plantation (16 TR 214).

Both the Confederate and Union sides constructed fortifications in the area in an effort to control access to the Lower Atchafalaya River and Bayou Teche. Fort Berwick, located at the junction of Wax Bayou and the Atchafalaya, and Fort Chene, at the junction of Bayou Shaffer and Bayou Chene, were both Confederate earthworks. The former was probably destroyed by construction of the Gulf Intracoastal Waterway, but remains of the latter may be present at the Bone Point site (16 SMY 39). Union fortifications included Fort Star (16 SMY 147) and other works in the area of Brashear, and Fort Weitzel on the east side of Bayou Boeuf where the railroad crossed it. Artifacts associated with the Union occupation of Fort Weitzel have been recovered from the Thibodaux site (16 AS 35) (Weinstein et al. 1978).

Postbellum and Modern Intervals (A.D. 1866 to 1940)

The changes in the Atchafalaya River that began in the previous period had a significant effect on the study area during this time. As the Atchafalaya continued to enlarge, it captured increasing proportions of the Mississippi River's flow. This not only raised flood heights on the Atchafalaya, it significantly increased its sediment load. During the 1870s flooding became

so severe that agricultural lands in the upper Atchafalaya basin had to be abandoned. Gradually the numerous lakes and small streams of the basin began to fill in with sediments. As the river became confined to a single channel within the basin, flood heights increased on the Lower Atchafalaya as well. Although subsidence and erosion remained the principal geomorphic processes operating in the study area as a whole, overbank flooding from the Lower Atchafalaya had a more immediate impact on the northwestern portion of the study area.

The principal changes in settlement in the study area during this period were the result of a gradual diversification of the economy from its agricultural base and the dispersal of population from the plantations. Plate 10, which is based largely on the 1890s and 1930s topographic maps, tends to exaggerate these changes somewhat because it provides greater detail than was previously available and because it reflects conditions in the latter portion of the period.

Following the Civil War the plantation economy of the region made a gradual recovery, but it changed in several respects from its antebellum form. Many plantation owners lacked the capital necessary for sugar cultivation and processing. In an effort to cut costs, some closed their sugar mills and began having their cane processed at independent mills. Others simply sold their property, often to wealthy northerners who consolidated several plantations. Within the study area, archeological data on postbellum plantations come from tests excavations on Avoca Plantation (16 SMY 130) and surface collections at Avoca Island #1 (16 SMY 178), Oakley II (16 SMY 181), Glen Orange (16 SMY 182), Boeuf-Chene Junction (16 SMY 44), Mulberry Bricks (16 TR 203), and Altschul (16 TR 218).

The labor force for the postbellum plantations included former slaves as well as white contract laborers, particularly Italian and German immigrants. Some continued to reside on the plantations, but others chose to live in nearby communities or in linear settlements that developed along the larger natural levees.

While the regional economy struggled to reestablish itself, the nation as a whole grew and created a demand for lumber for construction. Prior to that time the cypress swamps of southern Louisiana had been largely ignored due to the difficulties of working there and to the existence of the Homestead Act of 1866 which required that purchasers occupy and cultivate the lands. Passage of the Timber Act of 1876, which opened large areas of woodlands for sale, and two technological innovations of the 1880s, the steam-powered pullboat and the overhead skidder, made the cypress swamps accessible and economically viable resources.

During the 1880s and 1890s, sawmills were established at several points along the railroad line on the northern periphery of the study area. Most of the mills were owned by northern companies and included company housing and stores adjacent to the mills. The unskilled workers, particularly the swampers, were often locals who resided along the adjacent natural levees or in nearby communities such as Gibson or Greenwood. To provide access to the cypress, canals were dredged for pullboats in some areas, and in others narrow-gauge railroad lines were built into the swamps. By 1935 the virgin cypress had been logged and the lumber companies moved on, often taking the mill and most of the town with them.

Two of the cypress sawmill communities located just north of the study area have been examined archeologically. At one of these, the Good Land Sawmill (16 TR 114) at Chacahoula, extensive excavations were conducted in a black residential area (Whelan and Pearson 1988) and more limited research was carried out in the mill area (Castille et al. 1979). Test excavations were also conducted at the nearby Donner Sawmill (16 TR 121) and white residential area (16 TR 116). Further west the Bayou Ramos I site (16 SMY 133) includes the remains of the Ramos Lumber Company store and other buildings (Weinstein et al. 1978).

The development of the lumber industry occurred simultaneously with the expansion of the railroad. In 1869 the New Orleans, Opelousas, and Great Western Railroad was purchased by Charles Morgan and renamed Morgan's Louisiana and Texas Railroad. Seven years later the Louisiana legislature changed the name of the town of Brashear to Morgan City. In 1882 a railroad bridge was completed across the Lower Atchafalaya River, providing rapid transportation to the new markets in the southwestern United States.

Another industry that increased in importance during this period was trapping. Hunting and fishing camps had existed previously in the marshes, but the demand for fur in the late-nineteenth and early twentieth centuries led to the pattern apparent on Plate 10 (D.W. Davis 1978). Camps were established along navigable waterways regardless of the underlying geomorphic features, and canals or "trainasses" were then cut into the interior of the marsh. Due to their relatively recent and ephemeral nature, few of these camps have been examined archeologically to date, but the remains of one or more were recorded at the Lake Pagie site (16 TR 28). Another feature related to the exploitation of the area's coastal resources that has not been documented archeologically is the shrimp-drying platform, several of which were located along the Gulf coast margin.

As population grew in the late nineteenth and early twentieth centuries and the demand for land increased, new ways of utilizing the swamps and marshes were sought. Improvements in drainage technology during this same period encouraged a number of developer's and large landowners to attempt to "reclaim" these areas for cultivation and settlement. One such project was undertaken within the present study area by John N. Pharr and his sons on Avoca Island. Miles of canals and levees were constructed as part of the reclamation project, and three large pumping plants were built to drain the leveed area. For a decade or more, the project succeeded in lowering water levels in the interior of the island to the point that workers' houses could be constructed and stock herded there. Ultimately, financial problems and the 1927 flood brought an end to the project. Today, portions of the canals and levees remain, and the remnants of the drainage structures still stand.

Near the end of the period, a new industry, oil and gas exploration, was appearing in the study area. After the initial finds were made in the 1920s, large tracts of marshland were leased, and initial exploration began in the 1930s. Some of the canals depicted on Plate 10 are probably related to this industry, but its real impact on the environment and culture of the area would not be felt until succeeding decades.

CHAPTER 9

CONCLUSIONS

This chapter is composed of six main sections. The first summarizes the findings of the present study, while the second addresses the relative significance of the archeological sites examined. The third section provides discussions on site density, site distribution and types of sites by culture period. The fourth section examines the current and probable future conditions of the cultural resources. Included in this discussion is the predicted impact to sites, as related to construction of the AILE and based on the CELSS model of habitat change. The final sections will examine the various hypotheses posed in the research design and offer recommendations for future research in the Terrebonne marsh area.

Summary of Contributions

Data acquired during the present project have been instrumental in adding to the understanding of both the prehistory and history of the Terrebonne marsh region. Specifically, the study has accumulated information on 91 archeological sites. Descriptions of these sites, included in Chapters 5 through 7, offer an extensive data base that can be used over the coming years by archeologists concerned with the Terrebonne marsh region. On a general scale, this data base has allowed the present authors to synthesize the prehistory and history of the study area and produce a model of the reconstructed paleogeography from approximately 1000 B.C. to A.D. 1940. In essence, this is a more specific and up-to-date version of previous reconstructions offered by McIntire (1958) and Weinstein and Gagliano (1985). It has relied heavily on the work of Smith et al. (1986), along with extensive reanalysis of aboriginal ceramic collections previously obtained by McIntire and his co-workers.

In general, the results of the present project and previous research in the study area suggest that three archeologically sensitive areas can be identified within this larger region (see Plate 3). These areas contain not only the great majority of the known sites, but much of the identifiable natural levee and relict beach ridge as well. One area is located in the northwestern corner of the study area and encompasses several major Teche-Mississippi distributaries. This is perhaps the most extensively surveyed of the three areas, but it has also been one of the most heavily impacted by development. A number of significant sites have been identified there and several potentially significant sites remain to be assessed. Currently, commercial development appears to be a greater threat to the cultural resources of this area than subsidence and erosion.

Immediately southeast of this area is a large zone which contains few known sites. At present it is not clear whether this void is related to an inability to locate sites due to the depth of subsidence of the natural levees or to a real absence of sites. In either case the area appears to have a low archeological sensitivity at present.

A second archeologically sensitive area is defined by the small oval located in the south-central portion of the study area on Plate 3. This area encompasses most of the identified relict beach-ridge features. Most, if not all, of these features have evidence of aboriginal occupations; however, the nature of these occupations (e.g., resource extraction locales or more permanent habitations) is not well understood at present. Shell dredging earlier in this century greatly reduced the number of these features which are still intact, increasing considerably the archeological sensitivity of the area. At present neither petroleum-related

development nor subsidence and erosion appear to be seriously impacting the resource base, but this could easily change in the future.

The third and largest archeologically sensitive area is located along the northern and eastern edges of the study area. This area contains a substantial number of known sites, as well as extensive Lafourche-Mississippi and Teche-Mississippi natural levees which undoubtedly contain additional sites. The apparent scarcity of sites along Bayou Black and Bayou L'Ours in the northern portion of the area is due partly to a lack of survey and partly to the fact that several recorded sites are not shown on Plate 3. The known sites in the area represent a variety of settlement types, including large aboriginal villages with mounds, small shellfish collecting stations, and a variety of historic site types. Sites in the northern and eastern portions of this area are being seriously impacted by development, while those in the southern portion of the area are rapidly succumbing to subsidence and erosion.

On a more specific scale, several new and exciting pieces of data were found regarding the age of sites in the region and the possible age of the anomalous beach-ridge features located west and southwest of Bayou Mauvais Bois. The discovery of the Bois d'Arc #1 and #2 sites (16 TR 211 and 212) offers evidence that Poverty Point period people were in the area, probably by about 1000 B.C., and that relatively early natural levees, most likely associated either with Teche-Mississippi or Teche-Red distributaries are located throughout the region. By implication, the initial creation of the beach-ridge features must predate the abandonment of the Teche-Mississippi or Teche-Red systems. As suggested, the lower levels of these features may actually represent very early shell middens dating to Late Archaic times.

Several radiocarbon dates were obtained on shell samples from a few sites. While the date of A.D. 340 on *Rangia* probably associated with the Tchula period component at Bois d'Arc #1 (16 TR 211) is obviously later than it should be, the other three dates seem reasonable for their respective sites. Thus, the 170 B.C. date on oyster from the Tchula component at Bois d'Arc #1 is quite acceptable, and that of A.D. 1180 on *Rangia* from the late Coles Creek/early Plaquemine culture assemblages at the Bayou du Large site (16 TR 56) is considered an excellent date. Along similar lines, the date of A.D. 30 on the *Rangia* shell hash from the possible beach-ridge at the Lake Penchant site (16 TR 4) also is considered a reasonable date, although it most likely does not provide an estimate of the initial age of the feature.

Perhaps most encouraging was the fact that numerous sites or portions of sites still remain relatively intact, although many others have succumbed to erosion, canal construction, and shell dredging.

Site Significance

Table 9-1 summarizes information on the significance of 70 sites visited during the present study. Excluded from this table are the 21 sites from which previous collections were reanalyzed. Five of the 70 sites have been previously determined eligible for the National Register of Historic Places, and another eight are considered eligible on the basis of our findings. The largest category of sites (30) contains those that are considered potentially eligible, but require some additional information for final assessment. A somewhat smaller number (20) are considered not significant. The majority of the latter have been destroyed either through development or through subsidence and erosion. Four sites recorded previously within the study area could not be relocated, and three other sites located outside of our sample units were not assessed.

Table 9-1. Summary of Site Significance.

SITE NO.	SITE NAME	ASSESSMENT
16 AS 35	Thibodaux	Previously determined eligible
16 AS 36	Bayou Caroline	Not eligible
16 SMY 20	Bayou Chene	Previously determined eligible
16 SMY 44	Boeuf-Chene Junction	Potentially eligible
16 SMY 49	Oak Chenier	Previously determined eligible
16 SMY 52	Avoca Island Drainage Plant No. 1	Previously determined eligible
16 SMY 53	New Site	Not eligible
16 SMY 60	Avoca Island Drainage Plant No. 3	Previously determined eligible
16 SMY 62	New Oil Location Canal	Potentially eligible
16 SMY 63	Byrd Extension	Not eligible
16 SMY 65	Puff Ball	Could not be relocated
16 SMY 125	Avoca Island	Potentially eligible
16 SMY 126	Avoca Island Slough	Not eligible
16 SMY 127	Avoca Island Spoil Bank	Potentially eligible
16 SMY 128	Bayou Boeuf South	Not eligible
16 SMY 129	Head of Bayou Chene	Not eligible
16 SMY 142	Aucoin I	Potentially eligible
16 SMY 143	Aucoin II	Not eligible
16 SMY 144	Gagliano Garden	Not eligible
16 SMY 145	Bayou Boeuf Spoil	Not eligible
16 SMY 178	Avoca Island #1	Potentially eligible
16 SMY 179	Pel-Tex Dock	Not eligible
16 SMY 180	Oakley I	Not eligible
16 SMY 181	Oakley II	Potentially eligible
16 SMY 182	Glen Orange	Potentially eligible
16 SMY 183	Avoca Island Drainage Plant No. 2	Potentially eligible
16 TR 4	Lake Penchant	Not eligible
16 TR 19	Bayou du Large/Marmande Plantation	Eligible
16 TR 28	Lake Pagie	Potentially eligible
16 TR 31	Bayou De Cade	Not eligible
16 TR 44	Billiot Canal	Eligible
16 TR 47	Bayou Penchant I	Eligible
16 TR 49	Marmande Ridge	Eligible
16 TR 50	Turtle Bayou	Eligible
16 TR 56	Bayou du Large	Potentially eligible
16 TR 60	St. Paul Bayou	Potentially eligible
16 TR 65	Carrion Crow Bayou/Lovell Island	Eligible
16 TR 66	Carrion Crow Lake/Crochet's Island	Potentially eligible
16 TR 69	Minors Canal	Potentially eligible
16 TR 78	Bayou Black	Could not be relocated
16 TR 84	Bayou Black-GIWW	Not eligible
16 TR 87	GIWW-Houma South	Not eligible
16 TR 88/103	Deer Island	Eligible
16 TR 112	Brady Canal	Eligible
16 TR 192	Mauvais Bois #3	Potentially eligible
16 TR 193	Fahrenheit Knoll	Could not be relocated

(continued)

Table 9-1. concluded

16 TR 194	Starling Bergeron	Could not be relocated
16 TR 196	Intracoastal-Du Large	Not eligible
16 TR 197	Sunrise Field	Potentially eligible
16 TR 198	Mulberry Cemetery	Potentially eligible
16 TR 199	Du Large House	Potentially eligible
16 TR 200	Bleux Island	Potentially eligible
16 TR 201	Brady Canal Shell Ridge	Potentially eligible
16 TR 202	Marmande Ridge Crevasse	Potentially eligible
16 TR 203	Mulberry Bricks	Potentially eligible
16 TR 204	Small Bayou La Pointe Midden	Potentially eligible
16 TR 205	Frey's Mauvais Bois	Unknown
16 TR 206	Voss Canal	Unknown
16 TR 207	Xu-GIWW	Not eligible
16 TR 208	Sunrise Field East	Not eligible
16 TR 209	Orange Grove Field	Not eligible
16 TR 210	De Cade/Turtle Bayou Junction	Unknown
16 TR 211	Bois d'Arc #1	Potentially eligible
16 TR 212	Bois d'Arc #2	Potentially eligible
16 TR 213	Waterproof Distributary	Potentially eligible
16 TR 214	Orange Grove Plantation	Potentially eligible
16 TR 215	Waterproof Point Field	Potentially eligible
16 TR 218	Aitschul	Potentially eligible
16 TR 219	Carencro-Little Carencro	Potentially eligible
16 TR 220	Lake Pagie East	Not eligible

Results of the Sample Survey

The Terrebonne marsh sample survey examined a stratified random sample of 3000 ac within an area composed of approximately 447,891.21 ac. (This figure is based on digitizing the land surface within the study area from 7.5-minute topographic maps, excluding large water bodies and the areas of Bateman and Avoca Islands.) This represents only 0.67% of the study area, an extremely small sample from which to make generalizations. Nonetheless, as noted by Mueller (1974:30) and King (1978:87-89), samples as small as 1% may provide useful information. With this in mind, the implications of the present survey are considered below.

Site Densities

A total of 18 sites were located in the 3000 ac surveyed, representing a density of one site per 166.7 ac. The only comparable data for this region came from Gibson's 1978 survey. He reports that 39 sites were recorded after survey of 70.2 km² (17,346.72 ac) (Gibson 1978:228). Two of Gibson's sites were boats, a type of site not considered here. If these are excluded, then a density of one site per 468.83 ac is obtained. This figure is roughly one-third the density observed in the present survey, but in fact these numbers are misleading since they are due largely to differences in composition of the two areas surveyed.

Half of the present survey area consisted of a high-probability stratum composed of natural levees and a possible relict beach ridge. The other half was composed of swamps and marshes, which together made up a low probability stratum. All of the sites recorded occurred in the high-probability stratum, thus the density within it was one site per 83.33 ac. Natural

levees accounted for 99.4% of the stratum (1491.7 ac) and produced 13 of the recorded sites. The remainder of the sites occurred on the small, discontinuous areas (8.3 ac) of relict beach ridge surveyed. Site densities on the natural levees were one per 114.75 ac, while those on the beach ridges were an exceptionally high one per 1.66 ac.

In contrast, Gibson (1978:229) reports that natural levees made up only 1% (150.73 ac) of the area that he surveyed, while swamps accounted for another 36% (4628.26 ac) and marshes made up the remaining 63% (7971.58 ac). (He eliminates 4593.67 ac from his survey area before making these calculations.) Gibson offers no maps illustrating the distribution of these environments, but the extremely small area of natural levees suggests that he is only considering the exposed portion of the environment. This results in an inflated site density estimate for natural levees and the erroneous association of some sites with other environments. Twenty-two sites are reported as occurring on natural levees, yielding a density of one site per 6.85 ac. Nine more sites are listed as occurring in swamps, and another four are placed in marshes. Most of the latter 13 sites are actually associated with subsided natural levees within these environments.

By examining the components represented at the 18 sites located within the present sample survey area it is possible to develop density estimates for particular culture periods. Prehistoric occupations occur at four of the relict beach-ridge sites and on eight of the sites located on natural levees. These figures produce densities of one prehistoric site per 186.46 ac of natural levee and one site per 2.08 ac of beach ridge. The earliest occupations encountered in the sample survey date to the Tchula and Marksville periods. Both periods are represented by a single component, and both occur at the same site, St. Paul Bayou (16 TR 60). Thus, the estimate site density for the Tchula and Marksville periods is one site per 1491.7 ac of natural levee. The next periods represented in the sample, Coles Creek and Mississippi, each include four-natural-levee components and two beach-ridge components, yielding density estimates of one site per 372.93 ac of natural levee and one site per 4.15 ac of beach ridge.

Historic occupations are present at six of the natural-levee sites and none of the beach-ridge sites. All of the historic components date to the Postbellum and Modern period, producing a density estimate of one site per 248.62 ac of natural levee.

It is also possible to use the sample data to develop density estimates for the various types of sites represented. This is a somewhat questionable exercise for the prehistoric periods, because the survey data were generally not sufficient to permit the identification of settlement types. The only distinction made here is between semi-permanent villages, which in the later culture periods often contain mounds, and less-permanent camps. Only two villages were encountered in the survey area. One (16 TR 19) occurred on a natural levee and the other (16 TR 65) on a relict beach ridge. The estimated densities for these types of sites are therefore one per 1491.7 ac of natural levee and one per 8.3 ac of beach ridge. The remaining 10 prehistoric sites were classified as camps, seven of which occurred on natural levees and the remainder on relict beach ridges. Densities for these types of sites ranged from one per 213.1 ac of natural levee to one per 2.77 ac of beach ridge.

For the historic periods the survey recorded three types of settlements: plantations, rural houses, and cemeteries. Portions of four plantations were encountered, yielding a density estimate of one per 372.92 ac of natural levee. The other two settlement types were represented by single examples, producing density estimates of one per 1491.7 ac of natural levee.

The sample data may also be used to estimate the density of significant resources within the study area. Given the small size of the sample and the limited nature of the testing conducted, these estimates should be used with caution, as their reliability is uncertain. The

thirteen sites located on natural levees included one site judged significant, eleven considered potentially significant and one classified as not significant. This equates to a density of one significant site and one nonsignificant site per 1491.7 ac of natural levee, and one potentially significant site per 135.6 ac of natural levee. Of the five sites located on relict beach ridge features, two were considered significant and the remainder were judged potentially significant. This produces a density of one significant site per 4.2 ac of beach ridge and one potentially significant site per 2.8 ac of beach ridge.

Projected Site Frequencies

The site densities estimated above can be used to project numbers of sites within the entire study area. There are several ways of making such projections, but perhaps the most reliable is to utilize the site densities by depositional environment. In order to do this it was necessary to estimate the total amount of natural levee and relict beach ridge within the study area. The series of geomorphic maps produced by Smith et al. (1986) were used for this purpose. As noted previously, assumptions were made concerning the width of natural levees along subsided distributary channels and the area encompassed was then calculated through planimetry with a digitizer. In this manner estimates of 85,695.88 ac of natural levee and 383.63 ac of relict beach ridge were obtained for the entire study area.

Table 9-2 presents the projected site frequencies for the study area by culture period and site type. It should be noted that the projections for the relict beach-ridge features may be exaggerated somewhat. The numbers are based on densities of sites per acre, while the critical factor may actually have been the number of exposed portions of the beach ridge at any one time. The figures for each culture period are actually numbers of components, because some of the sites from which they were derived are multicomponent. It is not possible at this point to assess the absolute number of components projected, but the relative frequencies of the Marksville, Coles Creek, and Mississippi period components roughly match those presently known for the area. Those periods or site types absent from the projections are due to the small size of the sample.

Assessment of Impacts to Cultural Resources Relative to the CELSS Habitat Model

One of the primary aims of the present study was to determine potential impacts to cultural resources caused by construction of the AILE, the primary alternative. In that regard, environmental data supplied by the New Orleans District, based upon a habitat modeling project currently in preparation by the Center for Wetland Resources at LSU, was to be compared to the site data synthesized during the present study. While it is beyond both the need and scope of the present report to detail the LSU habitat model, a few introductory points need to be presented before the data comparisons can be attempted and any impacts assessed.

The Coastal Ecological Landscape Spatial Simulation (CELSS) Model

Although the final report on the LSU research has not yet been completed, a draft report is available and the data in that report are used in this chapter. Basically, the CELSS model divided the Terrebonne marsh area into several thousand 1-km-square cells, each equivalent to 247 ac. Three series of previously prepared habitat maps, dating from 1956, 1978, and 1983, then were used to determine the actual environmental makeup of each cell for each year. Habitat types included swamp, fresh marsh, brackish marsh, saline marsh, open water, and upland (natural levees, spoil banks, beach ridges, etc.). Each cell then was classified as to a specific habitat type, depending on which type made up the greatest percentage of area within that specific cell. For instance, if a cell was composed of 10% open water, 25% swamp, and 65% upland, then the entire cell was classified as an upland cell.

Table 9-2. Projected Site Frequencies within the Study Area by Culture Period and Site Type.

	NATURAL LEVEE	RELICT BEACH RIDGE	TOTAL
All Sites	746.80	231.10	977.90
Prehistoric	459.59	184.44	644.03
Tchula	57.45	0.00	57.45
Marksville	57.45	0.00	57.45
Coles Creek	229.79	92.44	322.23
Mississippi	229.79	92.44	322.23
villages	57.45	46.22	103.67
camps	402.14	138.49	540.63
Historic	344.69	0.00	344.69
plantations	229.80	0.00	229.80
cemeteries	57.45	0.00	57.45
houses	57.45	0.00	57.45
Significant	57.45	91.34	148.79
Potentially Significant	631.98	137.01	768.99
Not Significant	57.45	0.00	57.45

By comparing the changes through time of each cell, using a complicated and highly sophisticated computer program, and inputting additional data such as sea level rise, salinity from the Gulf, Atchafalaya River discharge, nutrients, suspended sediment load, water flow, etc., it was possible to determine the habitat type that would be most prevalent in a cell at any time in the future. To this were added other data relative to future changes brought about by construction of the AILE, or the AILE coupled with several mitigation measures. In the latter category were such features as freshwater diversion structures at Avoca Island and the junction of the GIWW and Copasaw Bayou, and the construction of weirs at the junction of Falgout Canal and Bayou du Large and the intersection of Creole Bayou and a canal within the Bayou Penchant Oil and Gas Field.

The end result was a series of maps of the Terrebonne marsh area, showing the habitat of each cell, not only for the years previously noted (1956, 1978, and 1983), but for the year 2033, a time assumed to be roughly 50 years after construction of the AILE. Several maps of the area in 2033 were supplied, as well. One shows the region as it would appear if no AILE was built. Another shows the area as a result of construction of the two-leg AILE, while others show the area as it would appear if one or more of the mitigation measures were implemented.

Data Comparison

The task facing CEI, therefore, was to examine the changes in each cell between the 1983 (present) situation and the year 2033, determine which cells would change if the AILE was not built, and which would change or be stabilized as a result of the various Corps-related projects. Finally, it was necessary to determine how that change would affect known or potential sites in or adjacent to those cells.

This overall comparison was facilitated greatly by the preparation of a series of large-scale project area maps showing each cell, compiled by Michael E. Stout, archeologist with the New Orleans District, who, as noted, served as both technical representative and

authorized representative of the Contracting Officer on this project. In order to develop a baseline for future "natural" habitat changes, Stout first compared the present habitat of each cell with its projected habitat in 2033 assuming that the AILE was not constructed. The future habitat without the project was then compared to the scenarios which included the AILE: one with other mitigation features and the other with only the AILE. In this manner it was possible to identify those cells which underwent change as a result of the project and those in which habitat change was slowed or prevented by the project. While a variety of habitat changes were predicted, the principal concern here was with transitions from a terrestrial habitat (e.g., natural levee, swamp or one of the marsh types) to open water, since this sort of change was believed to have a greater impact on archeological sites than shifts from one type of terrestrial habitat to another. Also of importance were cells in which the transition from land to open water was slowed or prevented by the project.

Results

Plates 11 through 13 in Volume II depict those cells which the CELSS model predicts to change from land to open water either as a result of natural processes, in the case of Plate 11, or as a result of the construction of the AILE, in the case of Plates 12 and 13. In addition, since the changes in a specific cell actually reflect not only significant changes in that cell alone, but also alterations in nearby cells which were not sufficient to cause those cells to change (Michael E. Stout, personal communication 1988), a "general area of change" has been drawn around cells where such change occurs. This area was devised by measuring 2 km in all directions from the edges of the changed cell. The 2-km radius was chosen since it presented the "best fit" in areas where several nearby, but nonadjacent cells changed. This provided for a more generalized area to be identified, as opposed to several, isolated areas clustered around specific cells. Use of a general area of change is considered necessary so that the impact to sites situated both directly within a cell subject to change and within nearby cells which may undergo a lesser amount of change, can be assessed. The scale of the CELSS model presents something of a problem in this regard. While the smallest unit considered by the model is a 1-km square, archeological sites are often associated with features which represent minority habitats within cells and therefore are overlooked by the model. For example, consider a cell in which the majority habitat type is fresh marsh, but an archeological site within the cell is associated with a small, elevated natural levee. Even though the marsh changes to open water, the natural levee and site may still be exposed and therefore not subject to impact. The implication is that the nature and setting of the resources have to be considered when interpreting the model's results.

Plates 12 and 13 also depict those cells in which, according to the CELSS model, the transition from land to open water would be slowed or prevented by construction of the AILE. When a 2-km radius area is extended around these cells as well, there is often an overlap with areas which the model predicts to be changing in the opposite direction. After consultation with personnel from the Center for Wetlands Resources and the New Orleans District, Corps of Engineers, it was decided that these areas of overlap should be treated as zones of uncertainty. Therefore, in considering the project's impacts on the cultural resources of the study area, sites within these areas were excluded.

Plate 11 shows the Terrebonne marsh area in the year 2033 without construction of the AILE. As can be seen, a total of 78 cells are predicted to change to open water. These occur as both isolated cells and groups of cells. Of the latter, one moderate-size group occurs in and around the junction of bayous Boeuf, Chene, and Black, while an extremely large grouping is present in the central marsh area generally north and west of lakes De Cade, Mechant, and Lost. The general area of change includes 21,703.3 ac of natural levee and 430.5 ac of relict beach ridge. Based on the results of the sample survey a total of 189 sites should be present in this area: 14.5 should be significant, 160 potentially significant, and 14.5 not significant. At

present 48 sites have been recorded in the area, and seven of these are considered significant, 10 potentially significant, and six not significant. The remainder have not been assessed.

In contrast, Plate 12 illustrates the Terrebonne marsh region in 2033 with the AILE but without any mitigation measures. As can be seen, marsh deterioration is much less than on the previous plate, resulting in reduced impacts to the area's cultural resources. There are four general areas that will experience land loss, but one of these overlaps extensively with an area that, according to the model, will be stabilized by construction of the AILE. If the area of overlap is eliminated, then a total of 6497.7 ac of natural levee and 16.8 ac of relict beach ridge will change to open water as a result of the project. Based on the sample survey the natural levee should contain 56.7 sites: 4.4 of which are significant, 47.9 potentially significant, and 4.4 not significant. Presently, five known sites within the area are associated with natural levees. One of these is considered potentially significant, and two others are not significant (Table 9-3). *The remainder have not been assessed.*

The results of the sample survey suggest that the impacted area of relict beach ridge should contain 10 sites: 4 of which are significant and 6 potentially significant. At present three known sites within the area are associated with this feature. One of these is considered significant and the other two are potentially significant (see Table 9-3).

In addition to the cells that will change from land to open water, the model indicates that a number of cells will be prevented from making this transition by construction of the AILE. These cells, along with the general areas associated with them, are also shown on Plate 12. They encompass a total of 9592.2 ac of natural levee and 182.4 ac of relict beach ridge. According to the results of the sample survey, the natural levee should contain 83.6 sites: 6.4 of which are significant, 70.8 potentially significant, and 6.4 not significant. The relict beach ridge should contain 108.5 sites: 43.4 of which are significant and 65.1 potentially significant. Thirteen sites are presently known to be located in areas that, according to the model, would be stabilized. Two of these have been determined eligible for the National Register, four are considered potentially eligible, four are not significant, and the remaining three have not been assessed (Table 9-4).

In addition, the Deer Island site (16 TR 88/103), a locale considered eligible for the National Register, is situated immediately west of the western ROW line of the AILE. It is possible that a subsurface portion of the site extends into the ROW, and this possibility will need to be assessed prior to construction. Along similar lines, a dredged, unnumbered site was noted by the present field investigators in an area northeast of Deer Island, and it is located within the projected path of the levee centerline. Additional unrecorded sites may also be expected in the area.

Plate 13 illustrates those areas subject to impact in the year 2033 by construction of the AILE and its associated mitigation measures, while Table 9-5 lists the known sites and their current National Register status. As can be seen, one relatively large zone located in the south-central portion of the study area, and four small, isolated pockets scattered throughout the remainder of the area would change from land to open water as a result of the construction. Two of the smaller areas of land loss overlap with areas which the model predicts to be stabilized by the project, thus the impact to these areas is uncertain. *The remaining areas that would change to open water include 6197.3 ac of natural levee and 19.9 ac of relict beach ridge. Extrapolating from the sample survey, the natural levee should contain 54.1 sites: 4.2 of which are significant, 45.7 potentially significant and 4.2 not significant. To date one known site within this area is associated with a natural levee, and its significance has not been assessed (Table 9-5).*

Table 9-3. Archeological Sites Subject to Adverse Impact by the Year 2033, with Construction of the AILE without Mitigation.

SITE NO.	SITE NAME	NATIONAL REGISTER ELIGIBILITY	ASSOC. LANDFORM
16 SMY 44	Boeuf-Chene Junction	Potentially eligible (Gagliano et al. 1975:Table 3A); Eligible (Gibson 1978b:276); Potentially eligible (this report)	Natural levee
16 SMY 128	Bayou Boeuf South	Potentially eligible (Gagliano et al. 1975:Table 3A); Not eligible (this report)	Natural levee
16 SMY 179	Pel-Tex Dock	Not eligible (this report)	Natural levee
16 TR 65	Carrion Crow Bayou/Lovell Island	Eligible (this report)	Relict beach ridge
16 TR 66	Carrion Crow Lake/Crochet's Island	Potentially eligible (this report)	Relict beach ridge
16 TR 105	Muddy	Not eligible (Gibson 1978b:277)	Natural levee
16 TR 206	Voss Canal	Unknown (this report)	Natural levee
16 TR 219	Carencro-Little Carencro	Potentially eligible (this report)	Relict beach ridge

The sample survey suggests that the impacted area of relict beach ridge should contain 11.8 sites: 4.7 of which are significant and 7.1 potentially significant. Currently, three known sites within this area are associated with this feature. One of these is significant and the other two are considered potentially significant (see Table 9-5).

In addition, as with those impacts related to construction of the AILE without mitigation, the Deer Island site (16 TR 88/103) will possibly be impacted directly by the actual levee. None of the proposed mitigation measures will directly impact any known cultural resource.

As indicated on Plate 13, the CELSS model also predicts that a number of cells would be prevented from changing to open water by construction of the AILE and its mitigation measures. The general areas around these cells contain 10,376.8 ac of natural levee and 221.8 ac of relict beach ridge. Based on the results of the sample survey, the natural levee should contain 90.5 sites: 7 of which are significant, 76.5 potentially significant, and 7 not significant. The relict beach ridge should contain 132 sites: 52.8 of which are significant and 79.2 potentially significant. Fifteen sites are presently known to be located in areas that, according to the model, would be stabilized. Two of these sites have previously been determined eligible for the National Register, two are considered potentially eligible, eight are not significant, and the remaining three have not been assessed (Table 9-6).

Table 9-4. Archeological Sites in Areas that would be Stabilized by Construction of the AILE without Mitigation.

SITE NO.	SITE NAME	NATIONAL REGISTER ELIGIBILITY	ASSOCIATED LANDFORM
16 TR 4	Lake Penchant	Not eligible (this report)	Relict beach ridge
16 TR 29	Rangia Lake	Unknown (this report)	Natural levee
16 TR 30	Jug Lake	Unknown (this report)	Natural levee
16 TR 31	Bayou De Cade	Not eligible (this report)	Natural levee
16 TR 47	Bayou Penchant I	Eligible (this report)	Relict beach ridge
16 TR 50	Turtle Bayou	Eligible (this report)	Natural levee
16 TR 84	Bayou Black-GlWW	Not eligible (this report)	Natural levee
16 TR 192	Mauvais Bois #3	Potentially eligible (this report)	Natural levee
16 TR 200	Bleux Island	Potentially eligible (this report)	Relict beach ridge
16 TR 205	Frey's Mauvais Bois	Unknown (this report)	Natural levee
16 TR 211	Bois D'Arc #1	Potentially eligible (this report)	Natural levee
16 TR 212	Bois D'Arc #2	Potentially eligible (this report)	Natural levee
16 TR 220	Lake Pagie East	Not eligible (this report)	Natural levee

Table 9-5. Archeological Sites Subject to Adverse Impact by the Year 2033, with Construction of the AILE and its Associated Mitigation Measures.

SITE NO.	SITE NAME	NATIONAL REGISTER ELIGIBILITY	ASSOCIATED LANDFORM
16 TR 65	Carion Crow Bayou/Lovell Island	Eligible (this report)	Relict beach ridge
16 TR 200	Bleux Island	Potentially eligible (this report)	Relict beach ridge
16 TR 206	Voss Canal	Unknown (this report)	Natural levee
16 TR 219	Carencro-Little Carencro	Potentially eligible (this report)	Relict beach ridge

Table 9-6. Archeological Sites in Areas that would be Stabilized by Construction of the AILE and its Associated Mitigation Measures.

SITE NO.	SITE NAME	NATIONAL REGISTER ELIGIBILITY	ASSOCIATED LANDFORM
16 AS 37	Chene-Assumption	Not eligible (Gibson 1978b:276)	Natural levee
16 SMY 20	Bayou Chene	Eligible (Gibson 1978b:276)	Natural levee
16 SMY 62	New Oil Location Canal	Eligible (Gibson 1978b:277); Potentially eligible (this report)	Natural levee
16 SMY 63	Byrd Extension	Eligible (Gibson 1978b:277); Not eligible (this report)	Natural levee
16 SMY 64	Ryan	Not eligible (Gibson 1978b:277)	Natural levee
16 TR 4	Lake Penchant	Not eligible (this report)	Relict beach ridge
16 TR 29	Rangia Lake	Unknown (this report)	Natural levee
16 TR 30	Jug Lake	Unknown (this report)	Natural levee
16 TR 31	Bayou De Cade	Not eligible (this report)	Natural levee
16 TR 47	Bayou Penchant I	Eligible (this report)	Relict beach ridge
16 TR 76	Bayou Penchant II	Unknown (this report)	Natural levee ?
16 TR 83	Chene I	Not eligible (Gibson 1978b:277)	Natural levee
16 TR 108	Treestump	Not eligible (Gibson 1978b:277)	Natural levee
16 TR 110	Bulldozer/Lily Boom Cut-off	Not eligible (Gibson 1978b:277)	Natural levee
16 TR 211	Bois D'Arc #1	Potentially eligible (this report)	Natural levee

Assessment of Impacts to Cultural Resources Relative to the Barrier Alternatives

U.S. 90 Barrier

Nine sites were known to be located in or near the alignment of this alternative prior to this study, and our reconnaissance-level surveys in the proposed ring levee locations at Boeuf and Amelia failed to locate any additional ones (Table 9-7). Two of the known sites, Thibodaux (16 AS 35) and Bayou Ramos I (16 SMY 133), have previously been determined to be eligible for the National Register of Historic Places. Two other sites, Hard Times Plantation (16 AS 34) and Greenwood Cemetery (16 SMY 19) are considered potentially eligible, but require additional information for complete assessment. Three sites, 16 AS 20, 16 AS 36, and 16 SMY 145, are not considered significant. The two remaining sites could not be relocated, and therefore cannot be assessed. They may have been destroyed by industrial development

Table 9-7. Archeological Sites Subject to Adverse Impact with Construction of the U.S. 90 Barrier Alternative.

SITE NO.	SITE NAME	NATIONAL REGISTER ELIGIBILITY	ASSOCIATED LANDFORM
16 AS 19	Amelia Docks	Unknown (this report)	Natural levee
16 AS 20	McDermott	Not eligible (Gibson 1978b:276)	Natural levee
16 AS 34	Hard Times Plantation	Potentially eligible (Weinstein et al. 1978:31-33)	Natural levee
16 AS 35	Thibodaux	Eligible (Weinstein et al. 1978:33-71)	Natural levee
16 AS 36	Bayou Caroline	Not eligible (this report)	Natural levee
16 SMY 19	Greenwood Cemetery	Potentially eligible (Weinstein et al. 1978:75-83)	Natural levee
16 SMY 45	Teledyne Slip	Unknown (this report)	Natural levee
16 SMY 133	Bayou Ramos I	Eligible (Weinstein et al. 1978:84-100)	Natural levee
16 SMY 145	Bayou Bocuf Spoil	Not eligible (this report)	Natural levee

since they were first reported. In general, sites in the alignment of this alternative have suffered considerable impact from this source. While additional unrecorded sites may be present in the ring levee portion of the alignment, they may be difficult to locate and will probably not be well preserved.

GIWW Barrier

Sixteen sites had been recorded in or near this alignment prior to the present research (Gagliano et al. 1975; Gibson 1978b), and 10 new sites were located by our surveys (four along the GIWW and six on Avoca Island) (Table 9-8). Four of these sites, 16 SMY 20, 16 SMY 49, 16 SMY 52, and 16 SMY 60, have previously been determined eligible for the National Register of Historic Places. Nine other sites are considered potentially eligible, and 12 sites have been determined to be not significant. One site, 16 SMY 65, could not be relocated, and is therefore of unknown significance. The results of the reconnaissance surveys suggest that the new sites located along the GIWW are being exposed by erosion, and therefore should be relatively few in number. The situation on Avoca Island is very different. Much of the northern portion of the island remains unsurveyed, and has a high potential for historic sites.

Bayou Black Barrier

The portion of the Bayou Black alternative that lies outside of the U.S. 90 alignment is poorly known archeologically. Only two sites, 16 TR 78 and 16 TR 194, had been recorded in or near this alignment prior to the present study, and we were unable to relocate either of them. Our own sample survey of 1% of the natural levee in this area produced only one site

Table 9-8. Archeological Sites Subject to Adverse Impact with Construction of the GIWW Barrier Alternative.

SITE NO.	SITE NAME	NATIONAL REGISTER ELIGIBILITY	ASSOCIATED LANDFORM
16 SMY 20	Bayou Chene	Eligible (Gibson 1978b:276)	Natural levee
16 SMY 44	Boeuf-Chene Junction	Potentially eligible (Gagliano et al. 1975:Table 3A); Eligible (Gibson 1978b:276); Potentially eligible (this report).	Natural levee
16 SMY 49	Oak Chenier	Eligible (Gibson 1978b:276)	Natural levee
16 SMY 52	Avoca Island Drainage Plant No. 1	Eligible (Gibson 1978b:277)	Natural levee
16 SMY 53	New Site	Not eligible (Gibson 1978b:277)	Natural levee
16 SMY 60	Avoca Island Drainage Plant No. 3	Eligible (Gibson 1978b:277)	Natural levee
16 SMY 62	New Oil Location Canal	Eligible (Gibson 1978b:277); Potentially eligible (this report)	Natural levee
16 SMY 63	Byrd Extension	Eligible (Gibson 1978b:277); Not eligible (this report)	Natural levee
16 SMY 65	Carrion Crow Bayou/Lovell Island	Eligible (this report)	Relict beach ridge
16 SMY 125	Avoca Island	Potentially eligible (Gagliano et al. 1975:Table 3A); Potentially eligible (this report)	Natural levee
16 SMY 126	Avoca Island Slough	Potentially eligible (Gagliano et al. 1975:Table 3A); Not eligible (this report)	Natural levee
16 SMY 127	Avoca Island Spoil Bank	Potentially eligible (Gagliano et al. 1975:Table 3A); Potentially eligible (this report)	Natural levee
16 SMY 128	Bayou Boeuf South	Potentially eligible (Gagliano et al. 1975:Table 3A); Not eligible (this report)	Natural levee
16 SMY 129	Head of Bayou Chene	Potentially eligible (Gagliano et al. 1975:Table 3A); Not eligible (this report)	Natural levee
16 SMY 178	Avoca Island #1	Potentially eligible (this report)	Natural levee
16 SMY 179	Pel-Tex Dock	Not eligible (this report)	Natural levee

continued

Table 9-8. concluded.

SITE NO.	SITE NAME	NATIONAL REGISTER ELIGIBILITY	ASSOCIATED LANDFORM
16 SMY 180	Oakley I	Not eligible (this report)	Natural levee
16 SMY 181	Oakley II	Potentially eligible (this report)	Natural levee
16 SMY 182	Glen Orange	Potentially eligible (this report)	Natural levee
16 SMY 183	Avoca Island Drainage Plant No. 2	Potentially eligible (this report)	Natural levee
16 TR 84	Bayou Black-GIWW	Not eligible (this report)	Natural levee
16 TR 87	GIWW-Houma South	Not eligible (this report)	Natural levee
16 TR 196	Intracoastal-Du Large	Not eligible (this report)	Natural levee
16 TR 197	Sunrise Field	Potentially eligible (this report)	Natural levee
16 TR 207	Xu-GIWW	Not eligible (this report)	Natural levee
16 TR 208	Sunrise Field East	Not eligible (this report)	Natural levee

near the alignment, 16 TR 214. This site, a historic plantation, is considered potentially eligible for the National Register of Historic Places.

The data on site density derived from the sample survey (presented previously) can be used to estimate the number of sites that should fall within the alignment, although, as will be seen, the results may not be very reliable. Assuming that the levee right-of-way is approximately 21 mi long and 100 ft wide (or 254.54 ac in area), then, based on the figure of one site per 114.75 ac, 2.2 sites should be present within this area. This figure seems unrealistically low, given that our own sample survey has already located one site. The density of prehistoric and historic sites along the relict natural levee adjacent to Bayou Black is almost certainly much higher.

Assessment of Hypotheses

This section will examine the statements presented as hypotheses in Chapter 4. Data acquired during the study will be used to assess the validity of the various hypotheses. Many of the hypotheses have been addressed already, albeit not directly, in the previous chapters, particularly Chapter 8 on the paleogeographical reconstruction. Thus, they will be reviewed only superficially here. Others, however, will be looked at in a bit more detail. For ease in following the discussion, the hypotheses will be addressed in the same order as originally offered in Chapter 4. The same general groupings of "Culture History," "Settlement Systems," and "Demography" also will be retained, as will the specific letter designations of each hypothesis.

I. Culture History

A. Early Prehistoric Occupations

Hypothesis: Although presently unrecorded, Archaic, Poverty Point and Tchula period occupations occur within the study area and are associated with relict Teche-Mississippi deltaic deposits.

Assessment: Site data presented in Chapters 5 through 7, and a review of the summary presented in Chapter 8, show that Poverty Point and Tchula period sites are present in the study area, both on the Teche-Mississippi trunk channel and on distributaries believed to have emanated from the main channel. Late Archaic occupations may be present in the deeper levels of some of the "beach-ridge" features, as suggested previously, but this possibility has not yet been verified.

B. Marksville Period Occupation

Hypothesis: The Mandalay phase, established by Phillips (1970) on the basis of data reported by McIntire (1958), is representative of Marksville period assemblages within the study area, and it shows greater similarities to Marksville assemblages farther up Bayou Teche than to those east of the study area in the Barataria Basin and the St. Bernard marshes.

Assessment: As discussed in Chapter 7, it now is apparent that the Mandalay phase probably should be discarded as an archeological entity. Ceramics from the site indicate that it was occupied predominantly during the early Marksville period, and an existing early Marksville phase, Jefferson Island (Toth 1977, 1988), already has been established for the general area. Whether or not the early Marksville assemblage at Mandalay shows closer ties to sites farther up the Teche-Mississippi trunk channel cannot now be determined.

C. Coles Creek Period Occupation

Hypothesis: Temporally distinct Coles Creek phases are identifiable within the study area, and these show greater similarities to Coles Creek assemblages located east of the area in the Lafourche Delta than to those further upstream along Bayou Teche.

Assessment: Unfortunately, time did not allow for review of Coles Creek components in regions adjacent to the current study area. Since, however, numerous Coles Creek sites were found and reviewed during the present study, this is still a viable topic for future research.

D. Mississippi Period Occupation

Hypothesis: Mississippi period occupations within the study area are assignable to the Plaquemine culture. The low frequencies of shell-tempered ceramics present at some of these sites represent trade or some other form of cultural interaction and not the presence of Mississippian culture groups.

Assessment: In general, this statement has been strongly supported by data collected during the present study. Clearly, the Plaquemine culture was the dominant element in the region during the Mississippi period. In only a few cases, such as at Pennison (16 AS 16) and Avoca Island (16 SMY 128), were shell-tempered Mississippian wares in the majority. However, in these instances, the number of sherds representing a definite Mississippi period assemblage was quite minimal, and a larger collection might indicate a predominance of Plaquemine wares.

E. Historic Period Aboriginal Occupation

Hypothesis: Historic period occupations related to the Chitimacha and Houma tribes are present within the study area. Chitimacha assemblages will show continuity with late prehistoric Plaquemine assemblages in this region and will generally date prior to 1800. Houma occupations will occur predominantly in the eastern portion of the study area and date after the 1770s.

Assessment: Although numerous sites with late Mississippi period ceramic assemblages were noted, none could be tied directly to either historic Chitimacha or Houma occupations. Many may, in fact, have been historic aboriginal sites, but the key elements necessary to identify them as such, primarily glass trade beads and European ceramics of the right time period, were not present. In two cases, however, at the Bayou du Large/Old Bridge (16 TR 71) and Altschul (16 TR 328) sites, potentially contemporaneous aboriginal and European ceramics were identified by Altschul in his 1978 sewerline survey report. None of these were reanalyzed for the present study, and questions have been raised previously regarding the accuracy of Altschul's identification of the European wares. Nevertheless, these sites may represent late-eighteenth- or early-nineteenth-century Houma occupations, and additional research should be conducted to verify this possibility.

II. Settlement Systems

A. General Locational Factors

Hypothesis: Human habitation sites in the deltaic plain will generally occur on relatively stable, elevated landforms (in this case natural levees and relict beach ridges), while short term resource extraction sites will occur in a variety of depositional environments.

Assessment: It is quite clear from the results presented in Chapters 5 through 7, and the paleogeographical reconstruction offered in Chapter 8, that almost all, if not all, sites, whether habitation or extraction locales, were located on elevated landforms. Many of these landforms have since subsided below the current marsh surface, but they no doubt were raised areas during their period of human use. Only a few wave-washed beach deposits, primarily fringing the margins of Fourleague Bay, could not be related to specific natural levees or one of the possible beach-ridge features. However, in these cases, it is almost certain that the sites once were, in fact, situated atop natural levees, but bay-edge transgression has destroyed all evidence of such landforms.

B. Relationship to Deltaic Activity

Hypothesis: The majority of prehistoric habitation sites within the study area will be associated with relict deltaic features rather than deposits of an active delta. Resource extraction sites will be associated with both relict and active deltaic environments.

Assessment: No sites visited during the present study could be identified with active delta building. This may be a reflection of the lack of excavated sites, where clear deposits of noncultural origin can be seen layered between cultural zones, but that does not appear to be the case. Rather, all data collected during the study, whether from auger borings or the presence of specific faunal remains, suggest that most, if not all, sites were associated with relict deltaic features. This includes both habitation and extraction locales. Clearly, however, more data are needed before the actual situation can be assessed correctly.

C. Archaic and Poverty Point Period Settlement Systems

Hypothesis Archaic and Poverty Point period components within the study area represent the remains of small, probably seasonally occupied habitation sites.

Assessment: Only two sites of the Poverty Point period, and none of the Archaic, were found in the study area. Both Poverty Point locales, Bois d'Arc #1 and #2 (16 TR 211 and 212), as noted in Chapters 7 and 8, were almost certainly small, seasonal, extraction sites.

D. Tchula Period Settlement System

Hypothesis: Tchula period occupations within the study area will include semi-permanent villages and small resource extraction sites. These were part of a larger settlement system which included centralized burial mounds, possibly located outside the present study area.

Assessment: Unfortunately, much of the data needed to address this hypothesis was not collected during the present study. Only a few sites with Tchula period ceramic assemblages were either visited or reviewed, and the collections from these, for the most part, consisted of only a few sherds of Tchefuncte Plain pottery. Only at Pennison (16 AS 16) and Bois d'Arc #1 (16 TR 211) were reasonable-size collections of Tchefuncte wares noted. Thus, it is difficult, based on the artifact collections, to assess specific site function.

Nevertheless, the general distribution of Tchula period sites is revealing, as noted in Chapter 8. Two of the five sites, Pennison and Bayou Caroline (16 AS 36), are most likely associated with the relatively broad natural levees of the Teche-Red situated within the even broader levees of the Teche-Mississippi. Thus, it is possible that these two sites may have been small hamlets or villages during Tchula times. The other three sites were almost certainly small-scale extraction locales. No information on Tchula period burial mounds was obtained during the study. The nearest recorded ones are located farther up the Teche near Lafayette.

E. Marksville Period Settlement System

Hypothesis: Marksville period occupations within the study area will include semi-permanent or permanent villages, some of which had burial mounds, and small resource extraction sites.

Assessment: Site data relative to the Marksville period allows for the clear identification of a settlement dichotomy within the study area. Locales such as Gibson (16 TR 5) and Mandalay Plantation (16 TR 1) almost certainly were permanent or semi-permanent villages at that time. Marksville period shell middens, such as Oak Chenier (16 SMY 49) and St. Paul Bayou (16 TR 60), clearly represent extraction locales. As noted, it is not known whether the destroyed mound at Mandalay Plantation actually dated to the Marksville period. The same may be said for the mounds at Gibson, although they are still extant, and one day may provide information to answer the question.

F. Coles Creek Period Settlement System

Hypothesis: Coles Creek period occupations within the study area will include semi-permanent or permanent villages, some of which had platform and burial mounds, and small resource extraction sites. A more complex site hierarchy will be apparent for this period than any previous period. Larger villages with mounds will be located on the broader natural levees, while resource extraction sites will occur predominantly on the narrow natural levees of small distributaries or crevasses.

Assessment: Most of the data needed to address this hypothesis, along with a detailed discussion offering interpretations of the data have appeared in Chapter 8. Certainly, the bulk of the hypothesis would appear to be verified.

Perhaps the only information found that would serve to alter the hypothesis concerns the small, pyramidal shell mounds located at sites in the marsh, such as those noted at Carrion Crow Bayou/Lovell Island (16 TR 65) and Marmande Ridge (16 TR 49). Although the evidence for the chronological placement of these mounds within the Coles Creek period is slim at best it seems quite possible that they date to the time in question. Thus, something other than simple marsh/swamp exploitation was occurring at these sites. This fact suggests that not all semi-permanent, or even permanent, villages were situated on the broader natural levees of the region.

G. Mississippi Period Settlement System

Hypothesis: Mississippi period occupations within the study area will include semi-permanent or permanent villages, some of which had multiple or single platform mounds, small agricultural hamlets and small resource-extraction sites. The site hierarchy for this period, particularly with respect to mound sites, will be more complex than that for the Coles Creek period. Small agricultural hamlets will occur on the broader natural levees.

Assessment: Types of sites and the site hierarchy of the Mississippi period within the study area have been reviewed, in depth, in the preceding chapter, and there is no need to repeat the discussion here. Suffice it to say that, in general, the predicted scenario appears accurate. Again, as with the Coles Creek period, only the few pyramidal mounds present at sites in the marsh, particularly that at Bayou Penchant (16 TR 47), would seem to suggest that not all semi-permanent, or possibly permanent, sites were situated on the broad levees of the major relict channels.

H. Mississippi Period Politics

Hypothesis: Mississippi period occupations within the study area were organized into a series of small polities which will be reflected in the distribution of sites, particularly those in the upper levels of the site hierarchy.

Assessment: As with the preceding hypothesis, discussion relative to this hypothesis has been presented in detail in Chapter 8. The data suggest that at least one mound center, the Berwick Mounds (16 SMY 184), may have been the dominant village of the region and may have controlled the smaller mound sites with their respective satellite villages, hamlets, and extraction camps.

I. Historic Period Aboriginal Settlements

Hypothesis: Chitimacha occupations within the study area represent the remains of small (single or multiple family) habitation sites and resource extraction sites. Houma occupations will consist predominantly of single family residences and may be very similar to non-Indian sites in terms of material remains.

Assessment: As noted above under the assessment of Hypothesis I.E., there currently is not enough information to address this topic. Hopefully, future research will allow for the identification of historic Houma and Chitimacha sites in the study area.

J. Colonial Settlement Systems

Hypothesis: French and Spanish Colonial period occupations within the study area will occur predominantly along the broader natural levees and will include small subsistence farms, cattle ranches, and plantations. These are expected to occur predominantly along Bayou Boeuf, especially the north shore of Avoca Island and the east bank of La Coup, and along the upper reaches of Bayou du Large. These areas were the location of the earliest land claims in the study area, so it is reasonable to predict early historic sites in these locations, as well. A few hunter or trapper cabins will be located on the narrow natural levees of distributaries in the marsh. Such locations in the study area would include bayous Shaffer, Chene, Penchant, Mauvais Bois, Small La Pointe, and the Marmande Ridge.

Assessment: Very little archeological data were obtained on Colonial settlement systems within the study area. As discussed in Chapter 8, the few sites that have produced material of the Spanish Colonial period are located in the areas of early land grants; however, there is little information on the nature of these occupations.

K. Antebellum Settlement System

Hypothesis: Antebellum period Anglo-American occupations within the study area will include cotton and sugar plantations located on the broader natural levees, principally along the north shore of Avoca Island and the northern end of Bayou du Large; small subsistence farms located predominantly on the smaller natural levees but occasionally on the larger levees as well, particularly along the banks of that stretch of Bayou Boeuf known as La Coup and on the middle reaches of Bayou du Large; and hunter or trapper cabins located on the narrow natural levees of small distributaries in the marsh, such as bayous Shaffer, Chene, Penchant, Mauvais Bois, Small La Pointe, and the Marmande Ridge.

Assessment: The antebellum settlement pattern of the study area is discussed in Chapter 8. Archeological data on this period are relatively limited, but the available cartographic and documentary information suggests that plantation agriculture was more widespread within the study area than is indicated in the hypothesis. Subsistence farms appear to have been common only during the early portion of the period or along very narrow natural levees. Very little locational information was obtained on camps during this period, but trapping does not seem to have become a widespread activity until the twentieth century.

L. Postbellum and Modern Settlement Systems

Hypothesis: Postbellum and Modern period occupations within the study area will include sugar plantations and independent sugar mills located on the broader natural levees, particularly the north shore of Avoca Island and the northern portion of Bayou du Large; lumber mills located on natural levees where railroad lines crossed them, such as at Donner and Chacahoula; small subsistence farms located predominantly on the smaller natural levees, principally the La Coup stretch of Bayou Boeuf and the middle reaches of Bayou du Large; residences of industrial and commercial workers, especially along the developed portions of Bayou Boeuf such as La Coup; facilities related to oil and gas exploration; and hunter or trapper cabins located on the narrow natural levees of small distributaries in the marsh, particularly those noted above, such as bayous Chene, Penchant, Shaffer, Mauvais Bois, Small La Pointe, the lower reaches of du Large, and the Marmande Ridge.

Assessment: As with the previous hypothesis, the Postbellum and Modern settlement pattern of the study area was addressed in Chapter 8. Archeological data on this period came predominantly from plantations, which appear to have remained widespread in the area, and sawmills. Documentary information suggests that subsistence farms were probably

not common at this time, and that facilities related to oil and gas exploration did not appear until the very end of the period. Cartographic data indicate that navigable streams were a more important factor in the location of trappers' camps than the presence of a stable landform.

III. Demography

A. Population Change through Time

Hypothesis: Prehistoric population within the study area exhibited a gradual increase through time.

Assessment: It has not been possible to examine this question in detail, but in general the sample survey and all of the site data from the area suggest that population probably increased throughout the prehistoric sequence until the Mississippi period. As noted previously, there is a decrease in the number of components from the Coles Creek to the Mississippi periods, and there is an even greater reduction within the Mississippi period. This may be due in part to an increase in site size, but, by the latter portion of the Mississippi period, population was definitely declining.

Recommendations for Future Research

The scope-of-work for the present study contained no requirement for recommendations; however, the authors wish to offer the following suggestions for future research in the Terrebonne marsh area. The first of these concerns the feature or features located in the south-central portion of the area and identified as a relict beach ridge. These features are presently the focus of considerable archeological and geological interest. Some researchers have argued that they are reworked deposits of the Maringouin or Teche Deltas which were later occupied by aboriginal groups, while others suggest that they are instead massive, and possibly early, shell middens which are now largely subsided beneath the marsh. Both the age and origin of the features therefore require clarification. The best approach to such a problem is through an interdisciplinary program of research which would coordinate the efforts of archeologists and Quaternary geomorphologists. This research should include the collection of a series of continuous cores taken through the features as well as on their seaward and landward sides. Controlled excavation units should also be placed into a sample of the features in an attempt to recover additional stratigraphic and chronological information.

The second recommendation concerns the Poverty Point and Tchefuncte occupations identified at the Bois d'Arc #1 and #2 sites (16 TR 211 and 212). These sites are of particular interest both because of their age and the possibility that they are associated with distributaries of the Teche-Mississippi. Additional information is needed on the extent and content of the sites and their geological setting. Because the sites are deeply buried, the research will have to rely largely on coring.

A third topic for research concerns the identification of historic aboriginal sites in the study area. Documentary information suggests that Chitimacha and Houma settlements should be present within the area; however, the available data are not sufficient to identify them with specific sites. Additional archival research should be conducted on this topic, and then intensive surveys should be carried out in the areas suggested by this research.

The final recommendation is concerned not with a specific research question, but with the current procedure for conducting archeological surveys in relation to canal excavation in the marsh. The results of the present study and previous research in this region suggest that surveys conducted prior to canal excavation often have little chance of locating sites due to their

subsidied nature. However, after the canal is completed there is an interval of a few months during which the canal's spoil banks can provide a readily accessible sample of the subsurface deposits. The fortuitous location of the Bois d'Arc #1 and #2 sites during the present study provides a dramatic example of the type of information which can be obtained from spoil bank deposits. This window of opportunity is of limited duration, however, as the spoil banks soon become covered by vegetation. We suggest that at periodic intervals a sample of the recently excavated canals in the area be examined by archeologists. This should not be seen as a replacement for pre-construction surveys, but rather as a supplement to them.

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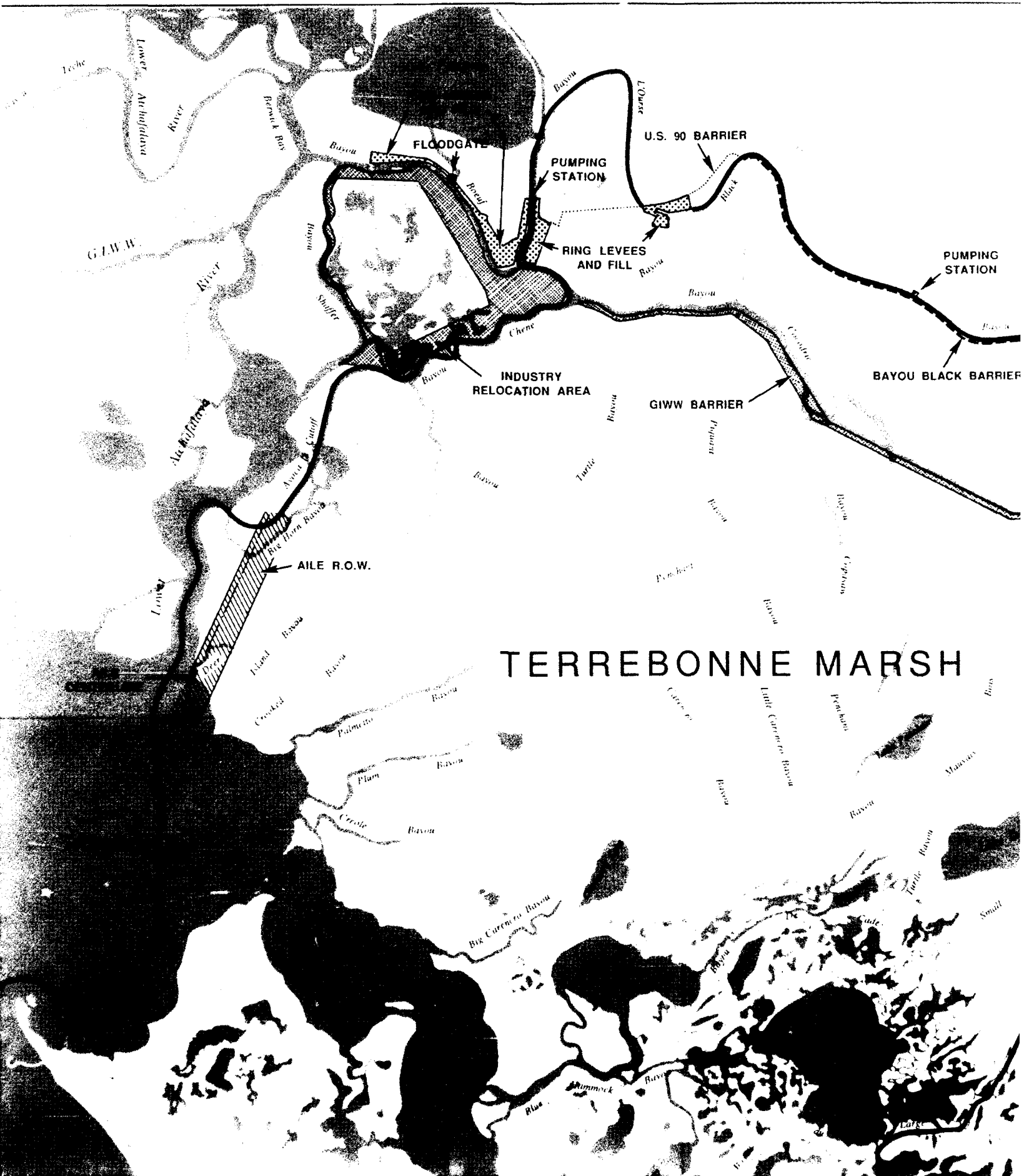
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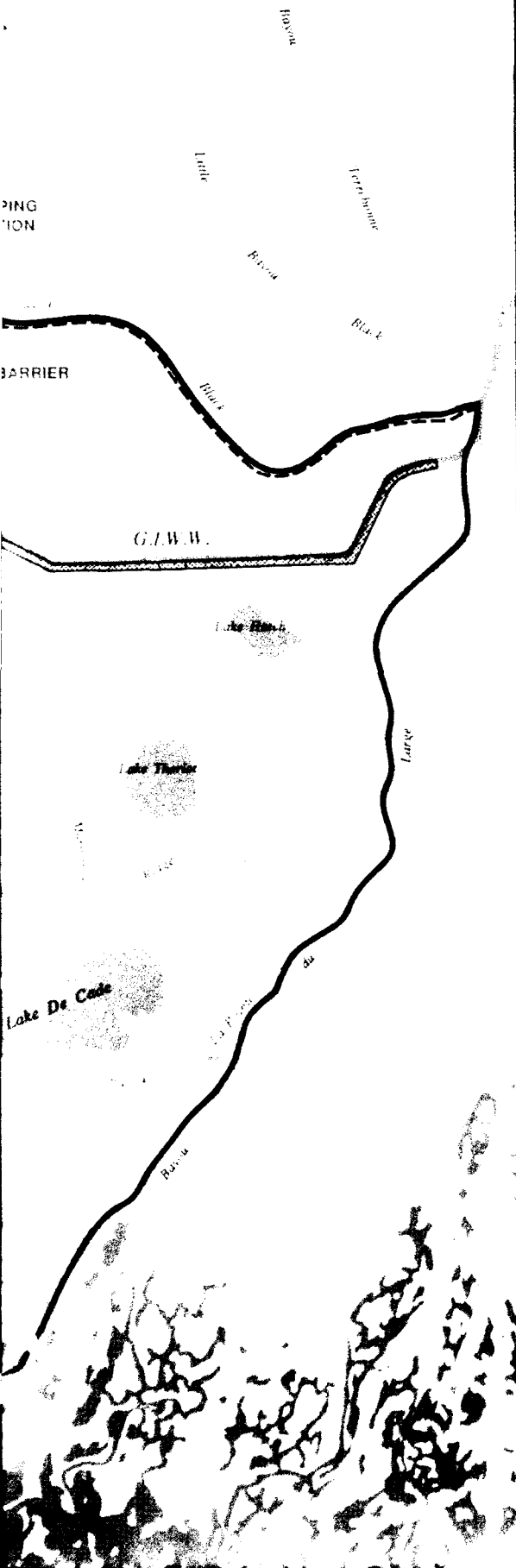
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TERREBONNE MARSH

ALTERNATIVE FLOOD PROTECTION MEASURES



AVOCA ISLAND LEVEE EXTENSION (AILE)
(Primary Alternative)



GIWW BARRIER / INDUSTRY RELOCATION



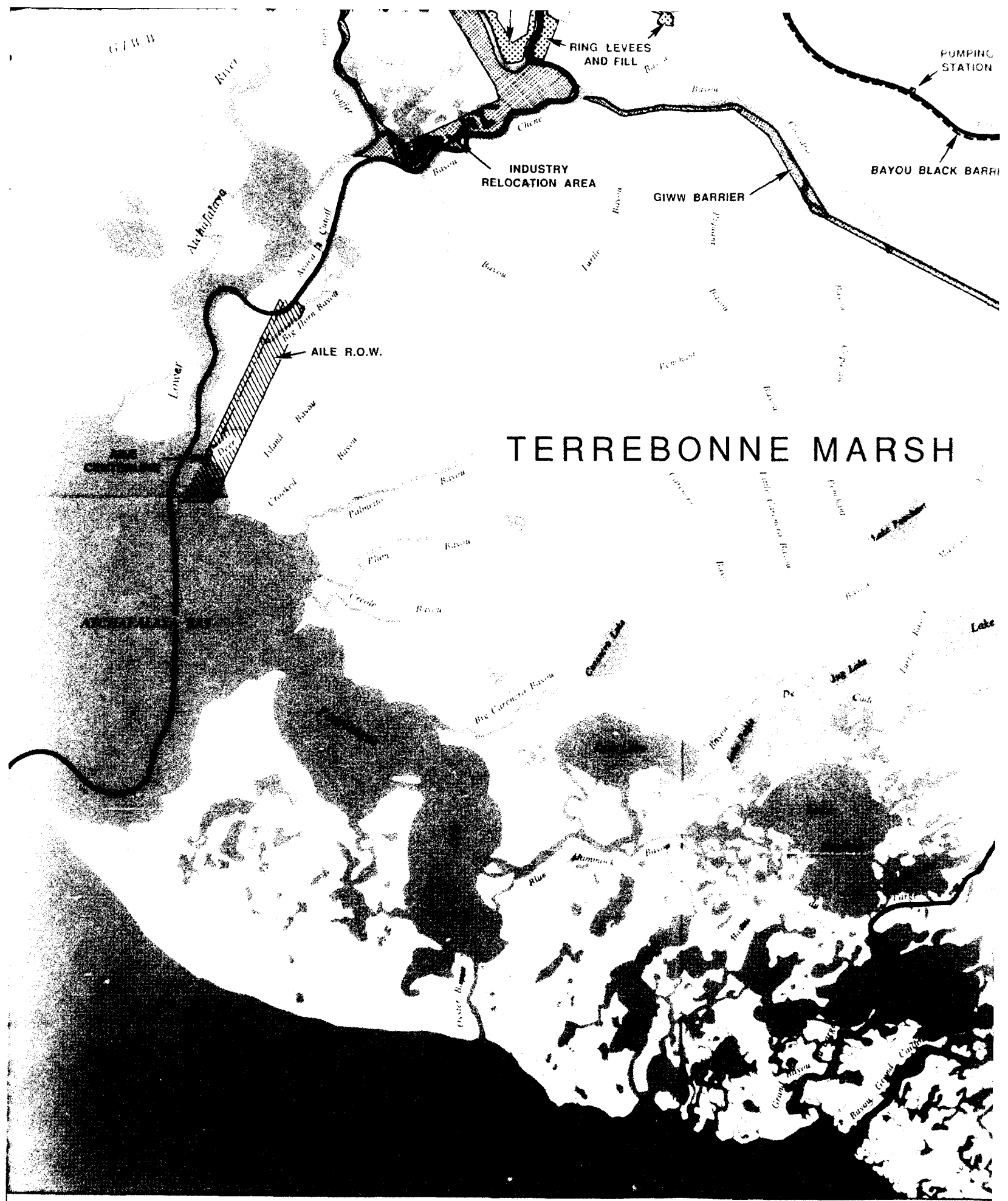
U.S. 90 BARRIER / RING LEVEES



BAYOU BLACK BARRIER

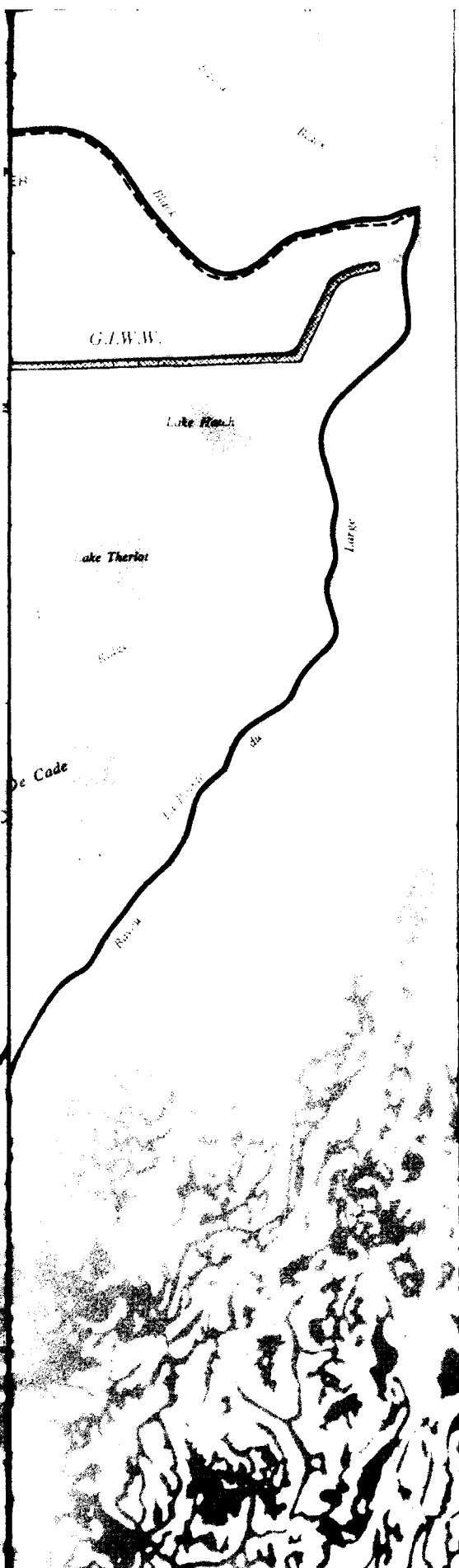


TERREBONNE MARSH STUDY AREA BOUNDARY



TERREBONNE MARSH

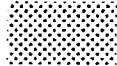
ALTERNATIVE FLOOD PROTECTION MEASURES



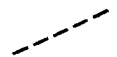
AVOCA ISLAND LEVEE EXTENSION (AILE)
(Primary Alternative)



GIWW BARRIER / INDUSTRY RELOCATION



U.S. 90 BARRIER / RING LEVEES



BAYOU BLACK BARRIER



TERREBONNE MARSH STUDY AREA BOUNDARY



Plate 1

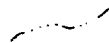


TERREBONNE MARSH

SELECTED GEOMORPHIC FEATURES

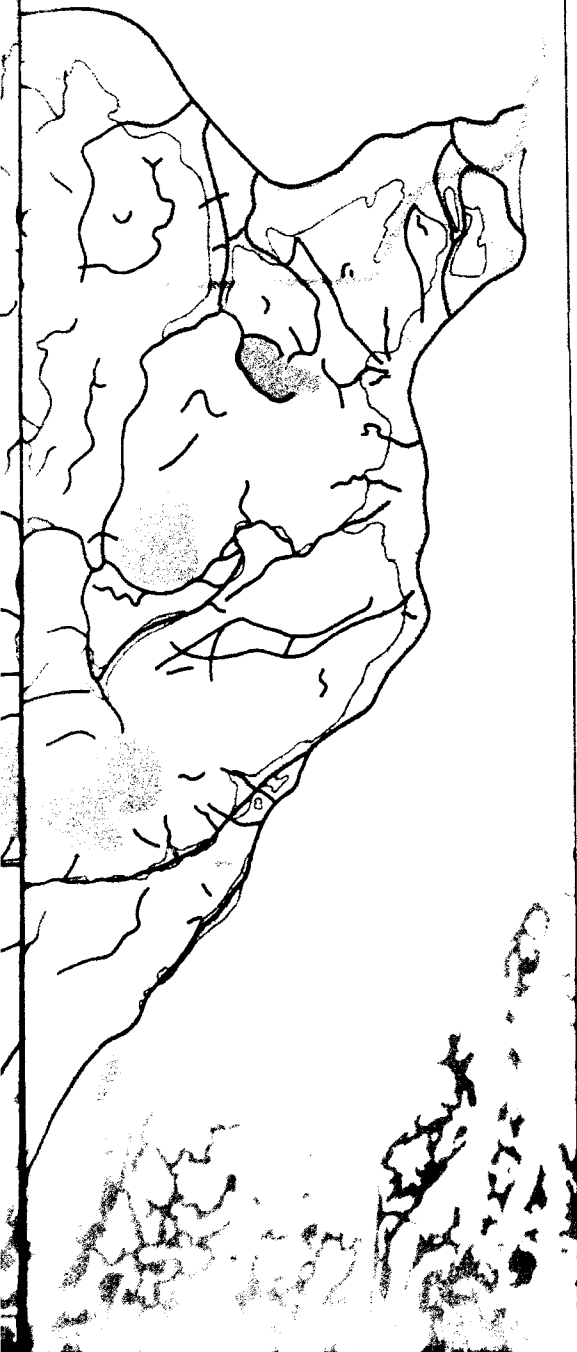


DISTRIBUTARY CHANNELS



POSSIBLE BEACH RIDGE

ELEVATED NATURAL LEVEES





SELECTED GEOMORPHIC FEATURES



DISTRIBUTARY CHANNELS



POSSIBLE BEACH RIDGE

ELEVATED NATURAL LEVEES

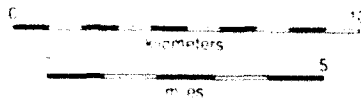
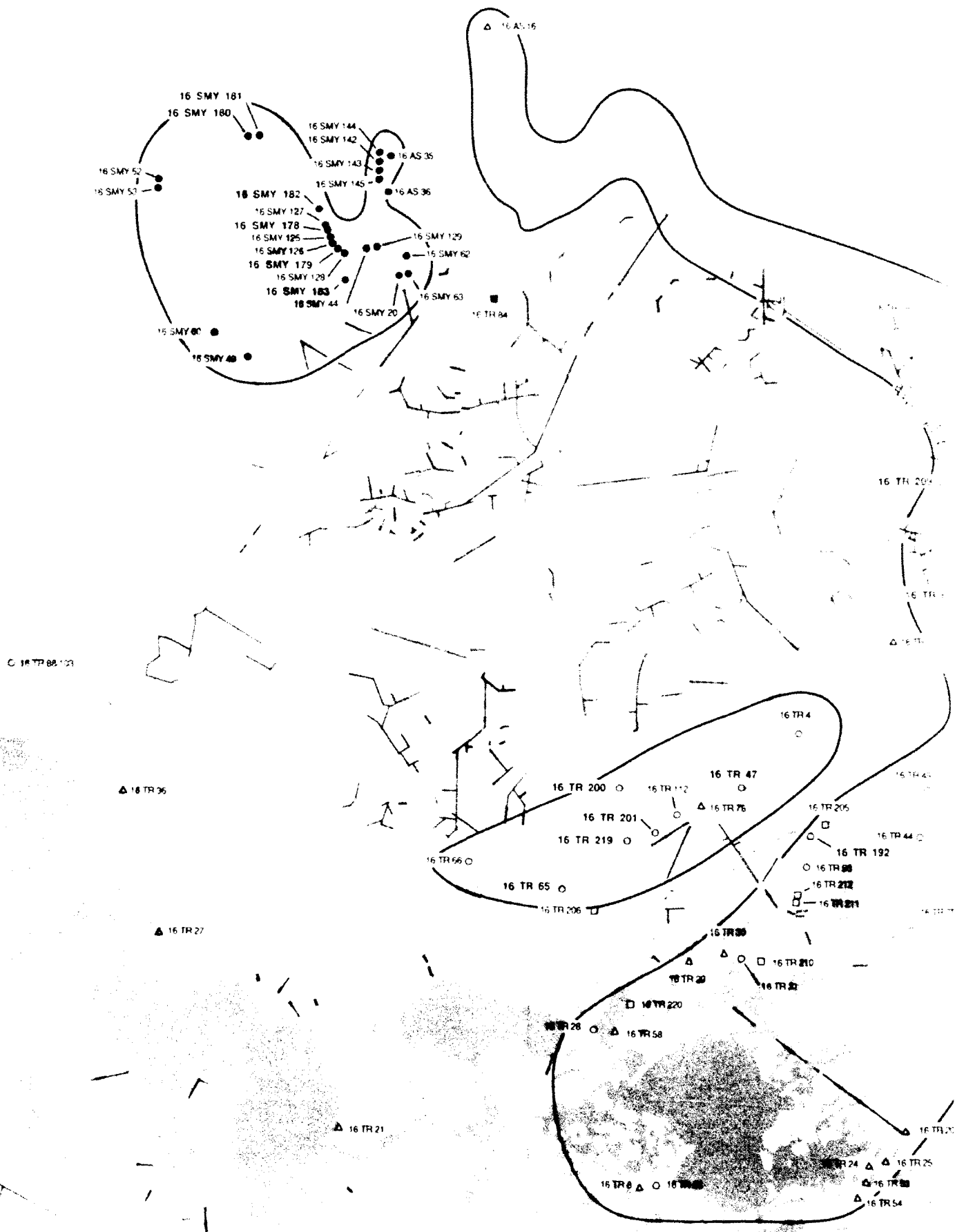


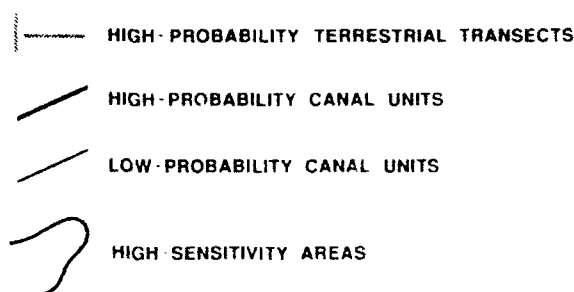
Plate 2



TERREBONNE MARSH

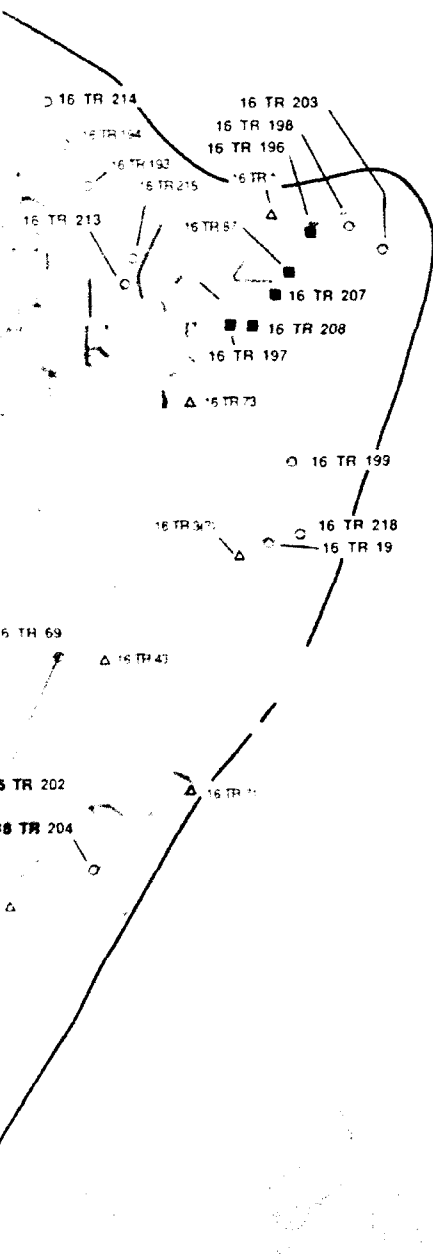
SURVEY UNITS AND ARCHEOLOGICAL SITES

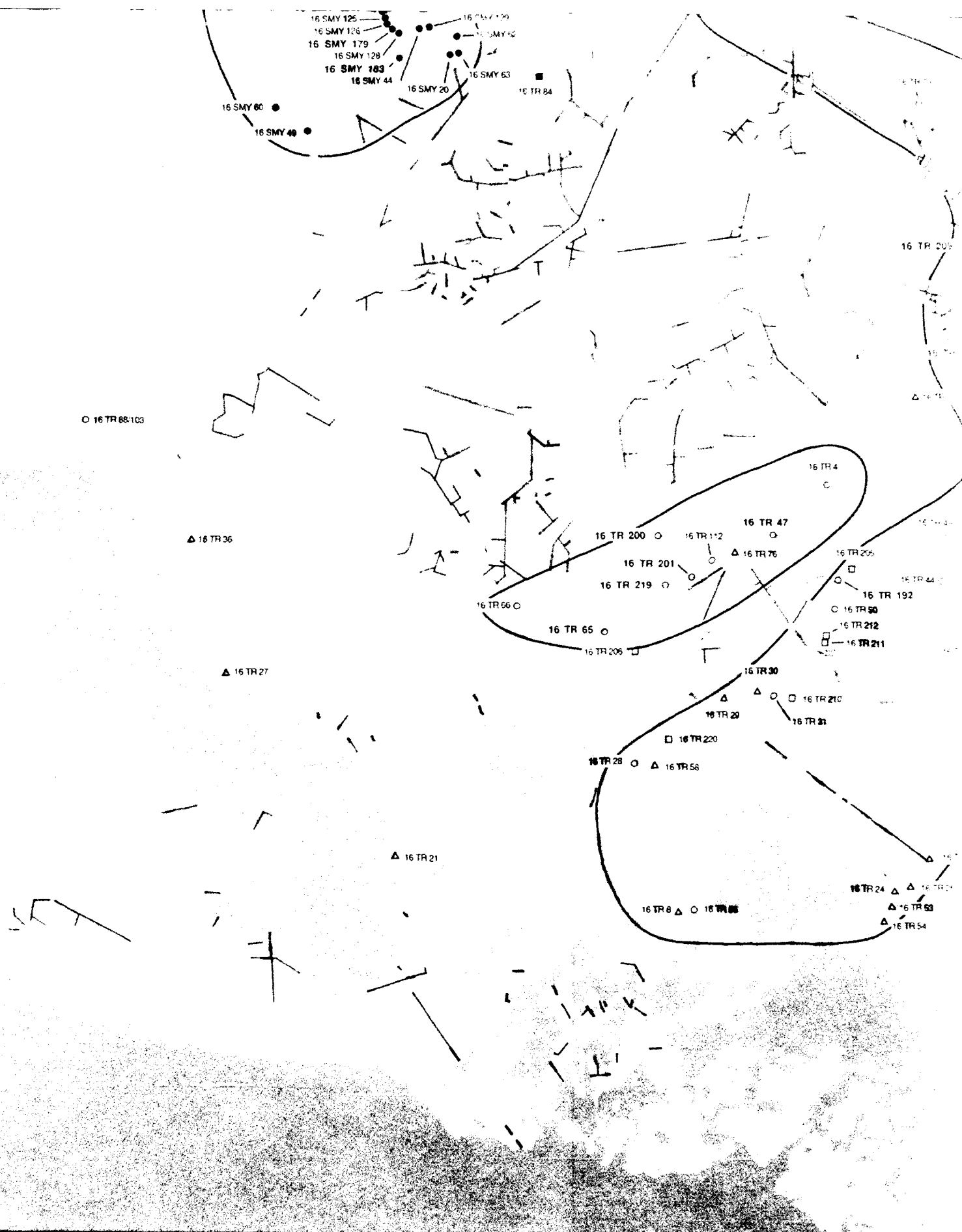
SURVEY UNITS

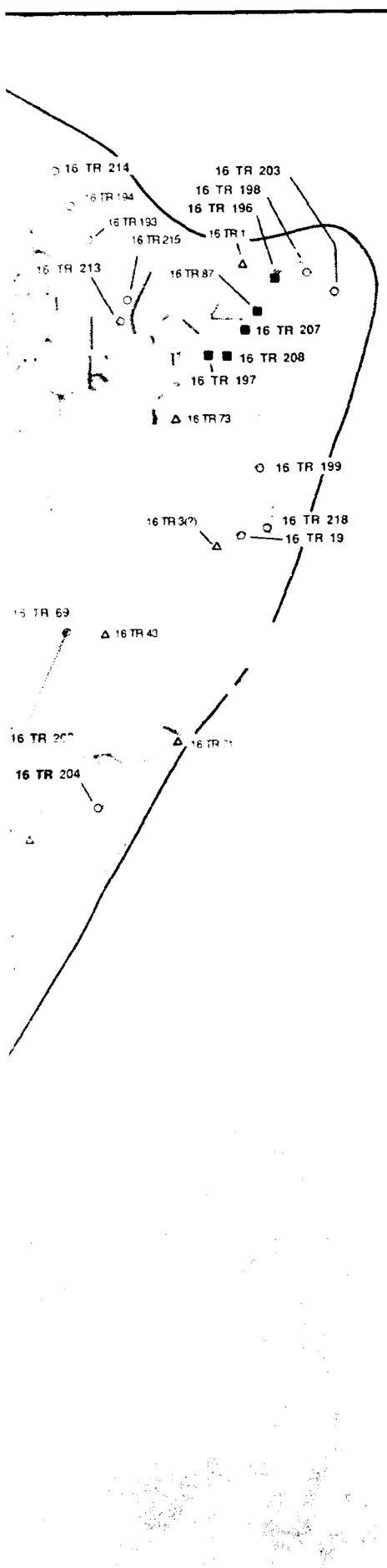


SITES

- 16 SMY 181
● SITES LOCATED DURING THE INDUSTRY RELOCATION / RING LEVEE RECONNAISSANCE SURVEY
- 16 SMY 52
● SITES REVISITED DURING THE INDUSTRY RELOCATION / RING LEVEE PORTION OF THE STUDY
- 16 TR 196
■ SITES LOCATED DURING SPOT CHECKS OF GIWW HIGH PROBABILITY AREAS
- 16 TR 87
■ SITES REVISITED ALONG GIWW
- 16 TR 60
○ SITES ENCOUNTERED DURING THE TERREBONNE MARSH SAMPLE SURVEY
- 16 TR 78
○ SITES REVISITED DURING THE TERREBONNE MARSH PORTION OF THE STUDY
- 16 TR 205
□ ADDITIONAL SITES LOCATED DURING THE TERREBONNE MARSH PORTION OF THE STUDY
- 16 TR 30
△ SITES FOR WHICH COLLECTIONS WERE REANALYZED
- 16 TR 3(2)
△ SITES WITH UNCERTAIN LOCATIONS



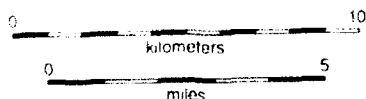




- HIGH-PROBABILITY TERRESTRIAL TRANSECTS
- HIGH-PROBABILITY CANAL UNITS
- LOW-PROBABILITY CANAL UNITS
- HIGH-SENSITIVITY AREAS

SITES

- 16 SMY 181
● SITES LOCATED DURING THE INDUSTRY RELOCATION / RING LEVEE RECONNAISSANCE SURVEY
- 16 SMY 52
● SITES REVISITED DURING THE INDUSTRY RELOCATION / RING LEVEE PORTION OF THE STUDY
- 16 TR 196
■ SITES LOCATED DURING SPOT CHECKS OF GIWW HIGH PROBABILITY AREAS
- 16 TR 87
■ SITES REVISITED ALONG GIWW
- 16 TR 60
○ SITES ENCOUNTERED DURING THE TERREBONNE MARSH SAMPLE SURVEY
- 16 TR 78
○ SITES REVISITED DURING THE TERREBONNE MARSH PORTION OF THE STUDY
- 16 TR 205
□ ADDITIONAL SITES LOCATED DURING THE TERREBONNE MARSH PORTION OF THE STUDY
- 16 TR 30
▲ SITES FOR WHICH COLLECTIONS WERE REANALYZED
- 16 TR 317
△ SITES WITH UNCERTAIN LOCATIONS





PE INISON
(1 AS 16)

TIGER

B. CAROLINE
(16 AS 36)

TECHE-RED

SHAFFER

CHENE

COCODRIE

ATCHAFALAYA

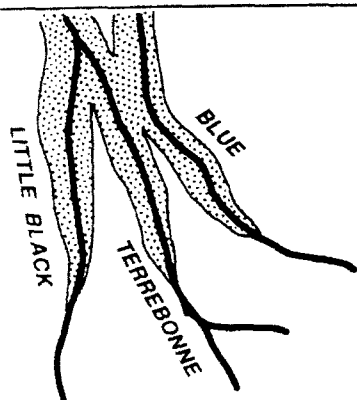
PENCHANT

PIQUANT

ORANGE

TURTLE

DE C. TR 317



TERREBONNE MARSH

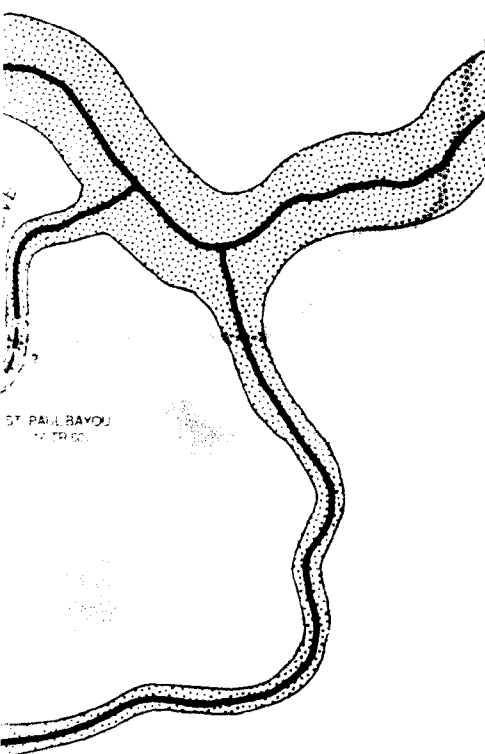
1000 B.C. to A.D. 1






POVERTY POINT AND TCHULA PERIOD

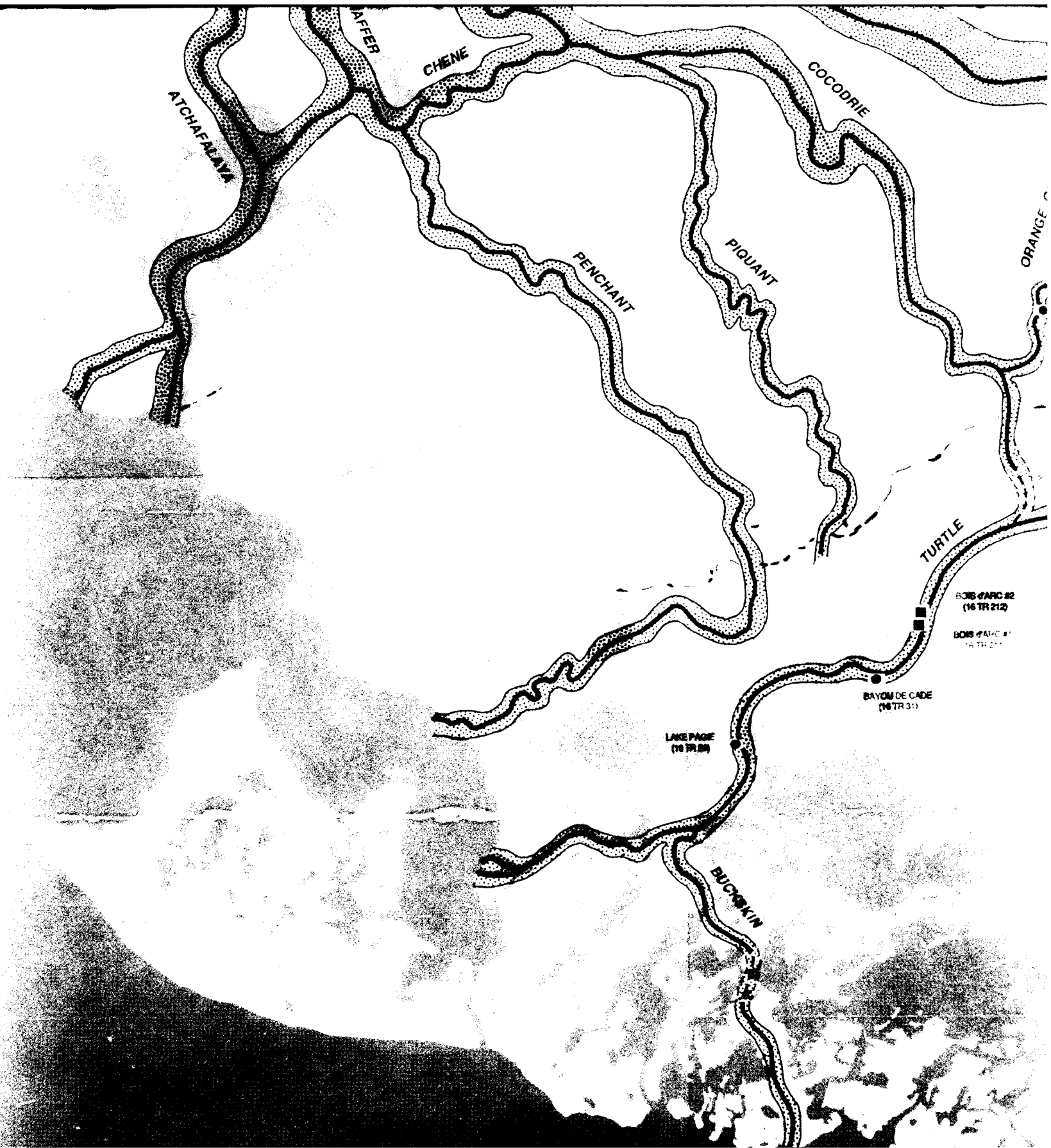
■ INITIAL OCCUPATION □ COMPONENT PRESENT

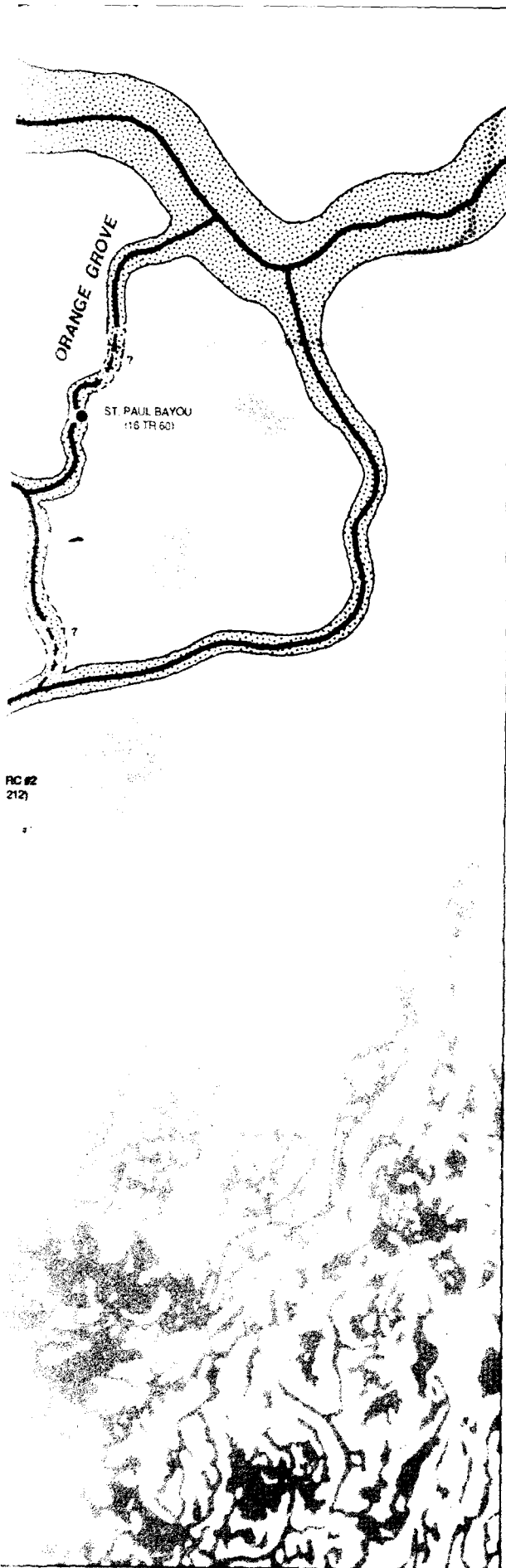
■ LATE POVERTY POINT PERIOD
(with subsequent Tchula Period
component present)

● UNDIFFERENTIATED TCHULA PERIOD








-  WATERCOURSE
-  NATURAL LEVEE
-  POSSIBLE BEACH RIDGE "ISLANDS"
AND TREND OF RIDGE
-  RELICT WATERCOURSE
-  POSSIBLE COURSE





☒ INITIAL OCCUPATION
 ☐ COMPONENT PRESENT

- LATE POVERTY POINT PERIOD
(with subsequent Tchula Period component present)
- UNDIFFERENTIATED TCHULA PERIOD

-  WATERCOURSE
-  NATURAL LEVEE
-  POSSIBLE BEACH RIDGE "ISLANDS" AND TREND OF RIDGE
-  RELICT WATERCOURSE
-  POSSIBLE COURSE

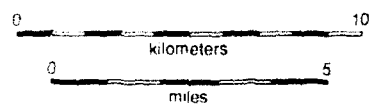
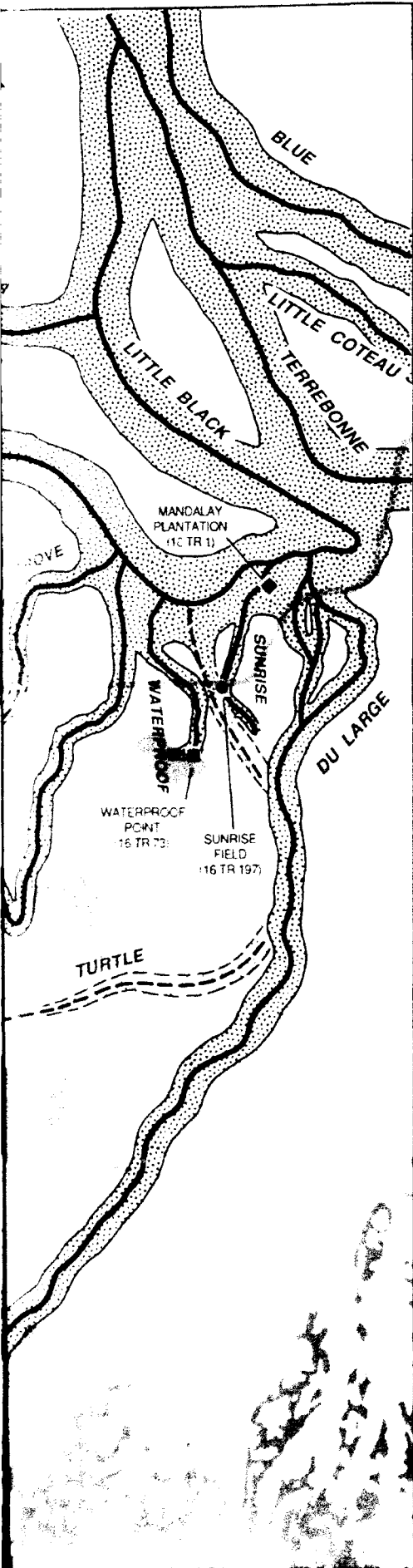


Plate 4










TERREBONNE MARSH

A.D. 1 to A.D. 400

MARKSVILLE PERIOD

■ INITIAL OCCUPATION □ COMPONENT PRESENT

- EARLY MARKSVILLE
- LATE MARKSVILLE
- ▲ UNDIFFERENTIATED MARKSVILLE
- ◆ EARLY AND LATE MARKSVILLE






-  WATERCOURSE
-  NATURAL LEVEE
-  POSSIBLE BEACH RIDGE "ISLANDS" AND TREND OF RIDGE
-  RELICT WATERCOURSE
-  POSSIBLE COURSE



MARKSVILLE PERIOD

■ INITIAL OCCUPATION □ COMPONENT PRESENT

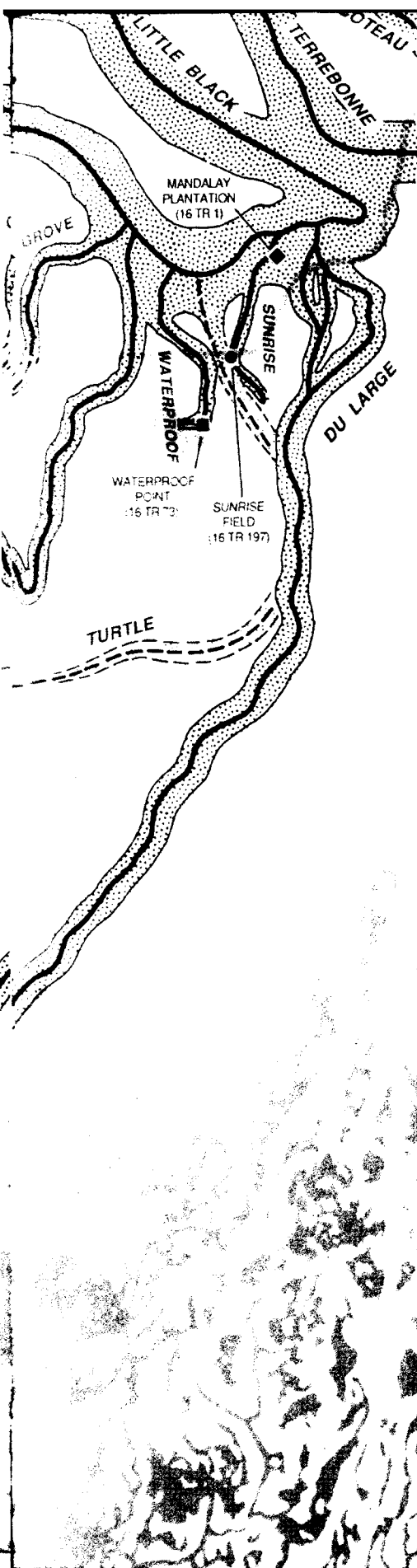
- EARLY MARKSVILLE
- LATE MARKSVILLE
- ▲ UNDIFFERENTIATED MARKSVILLE
- ◆ EARLY AND LATE MARKSVILLE

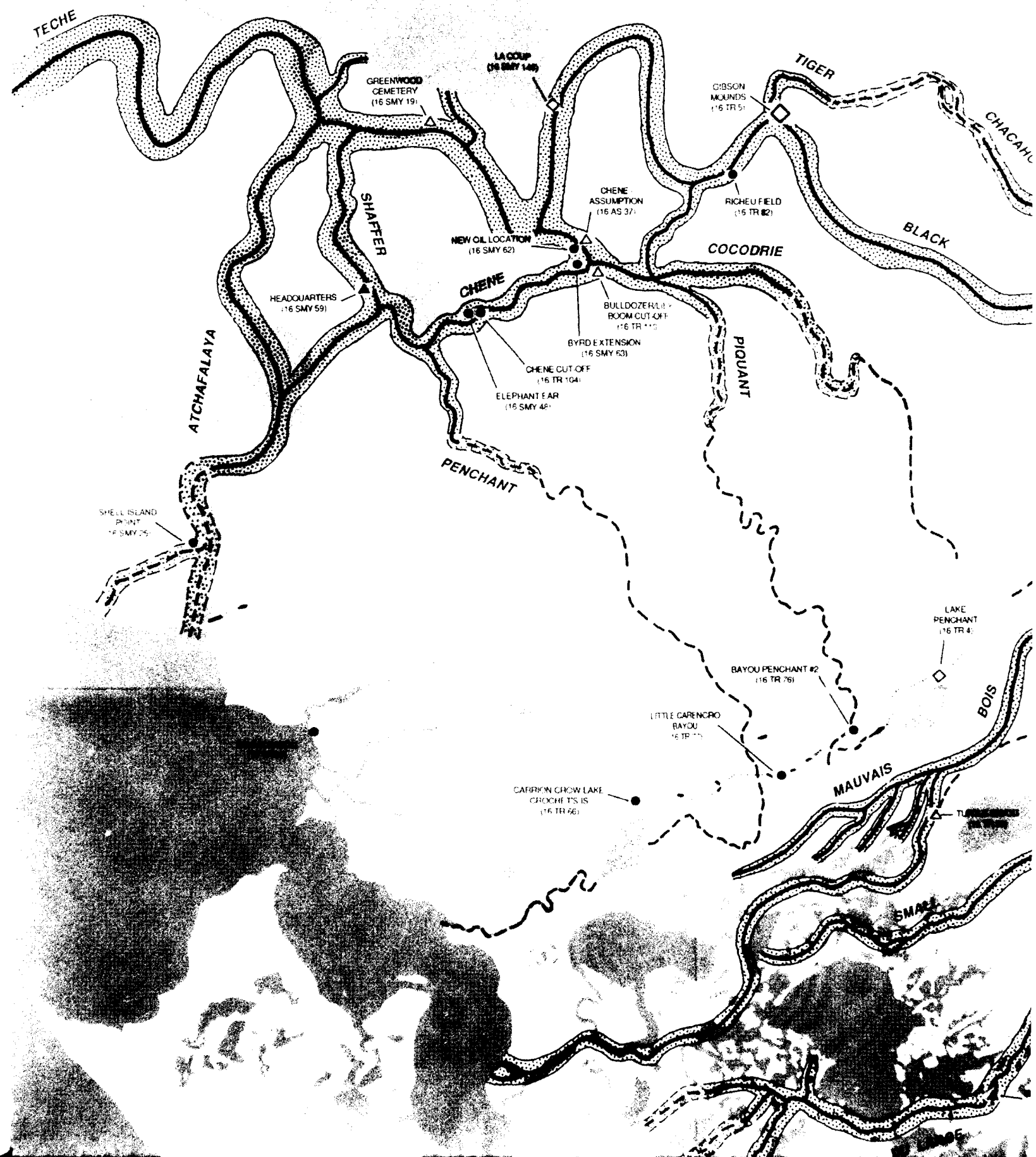
-  WATERCOURSE
-  NATURAL LEVEE
-  POSSIBLE BEACH RIDGE "ISLANDS" AND TREND OF RIDGE
-  RELICT WATERCOURSE
-  POSSIBLE COURSE

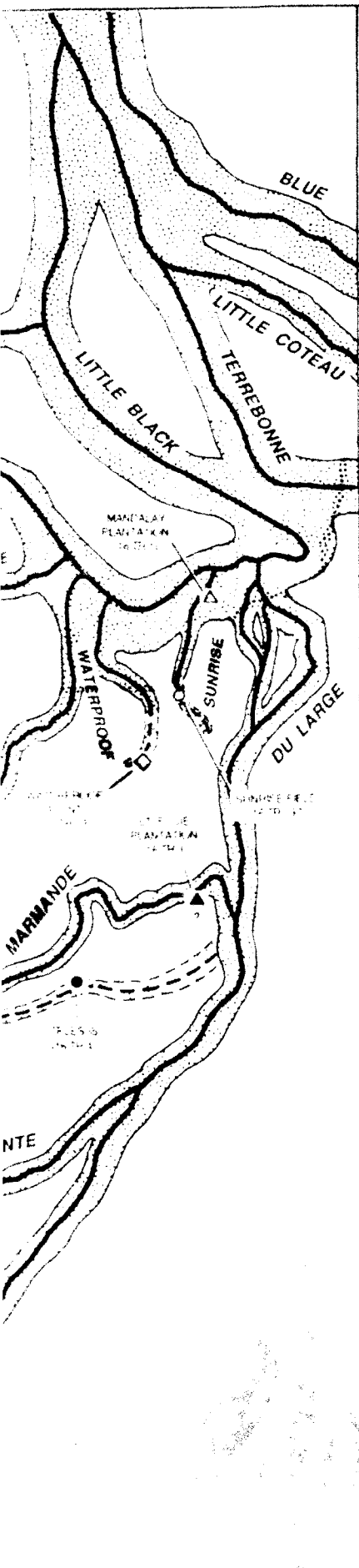
0 10
kilometers
0 5
miles



Plate 5







TERREBONNE MARSH






A.D. 400 to A.D. 700

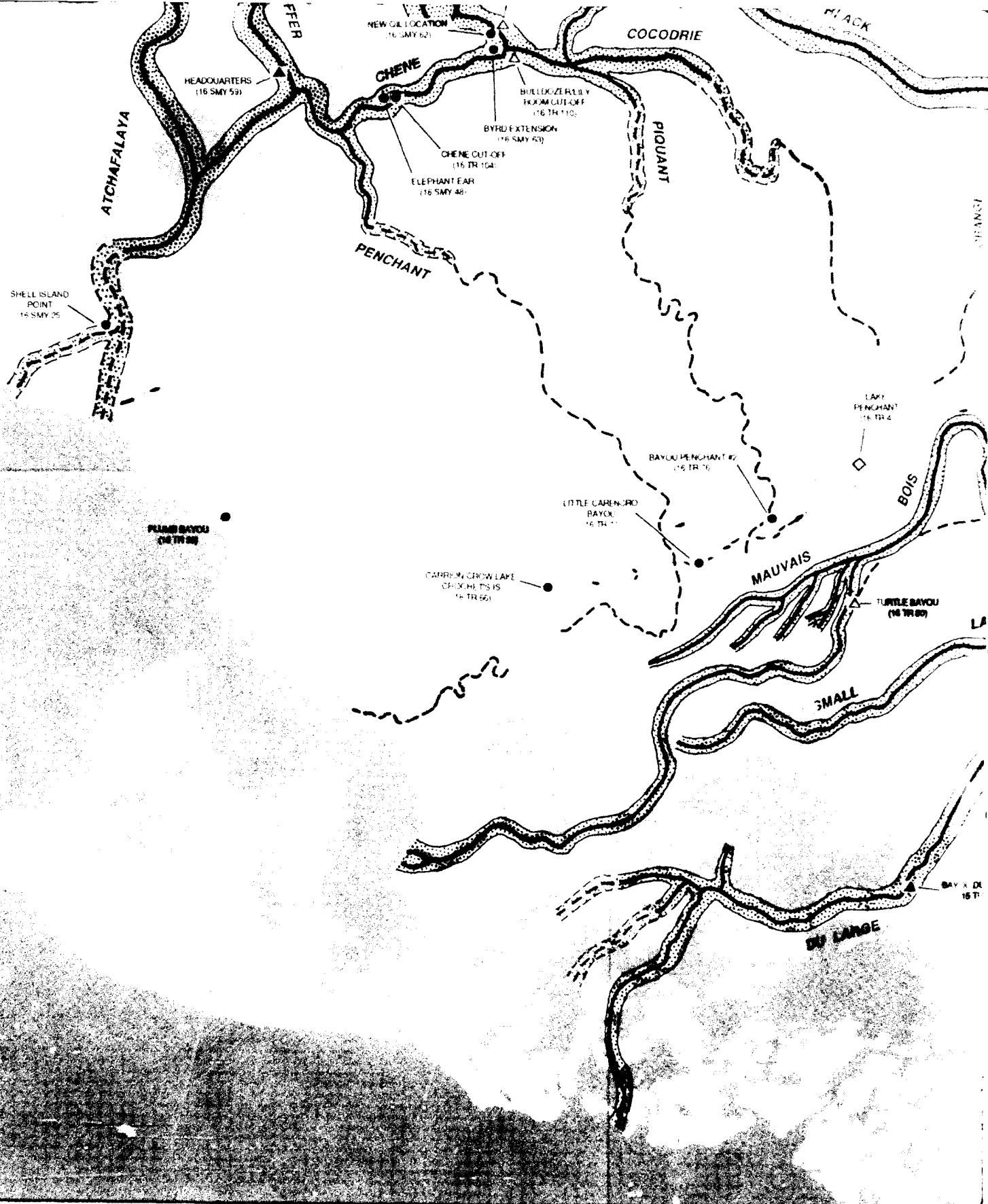
BAYTOWN PERIOD

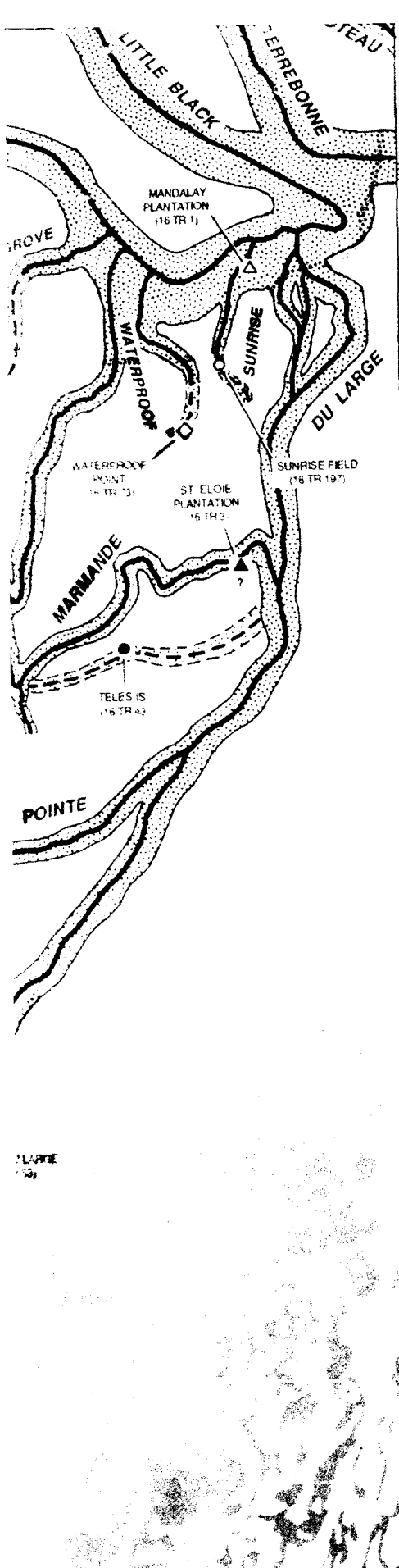
■ INITIAL OCCUPATION □ COMPONENT PRESENT
 LARGE SYMBOL - LARGE VILLAGE

- EARLY BAYTOWN PERIOD
- LATE BAYTOWN PERIOD
- ◆ EARLY AND LATE BAYTOWN PERIOD
- ▲ UNDIFFERENTIATED BAYTOWN PERIOD

○ OCCUPATION QUESTIONABLE

-  WATERCOURSE
-  NATURAL LEVEE
-  POSSIBLE BEACH RIDGE "ISLANDS" AND TREND OF RIDGE
-  RELICT WATERCOURSE
-  POSSIBLE COURSE





■ INITIAL OCCUPATION □ COMPONENT PRESENT
 LARGE SYMBOL = LARGE VILLAGE

- EARLY BAYTOWN PERIOD
- LATE BAYTOWN PERIOD
- ◆ EARLY AND LATE BAYTOWN PERIOD
- ▲ UNDIFFERENTIATED BAYTOWN PERIOD

? OCCUPATION QUESTIONABLE






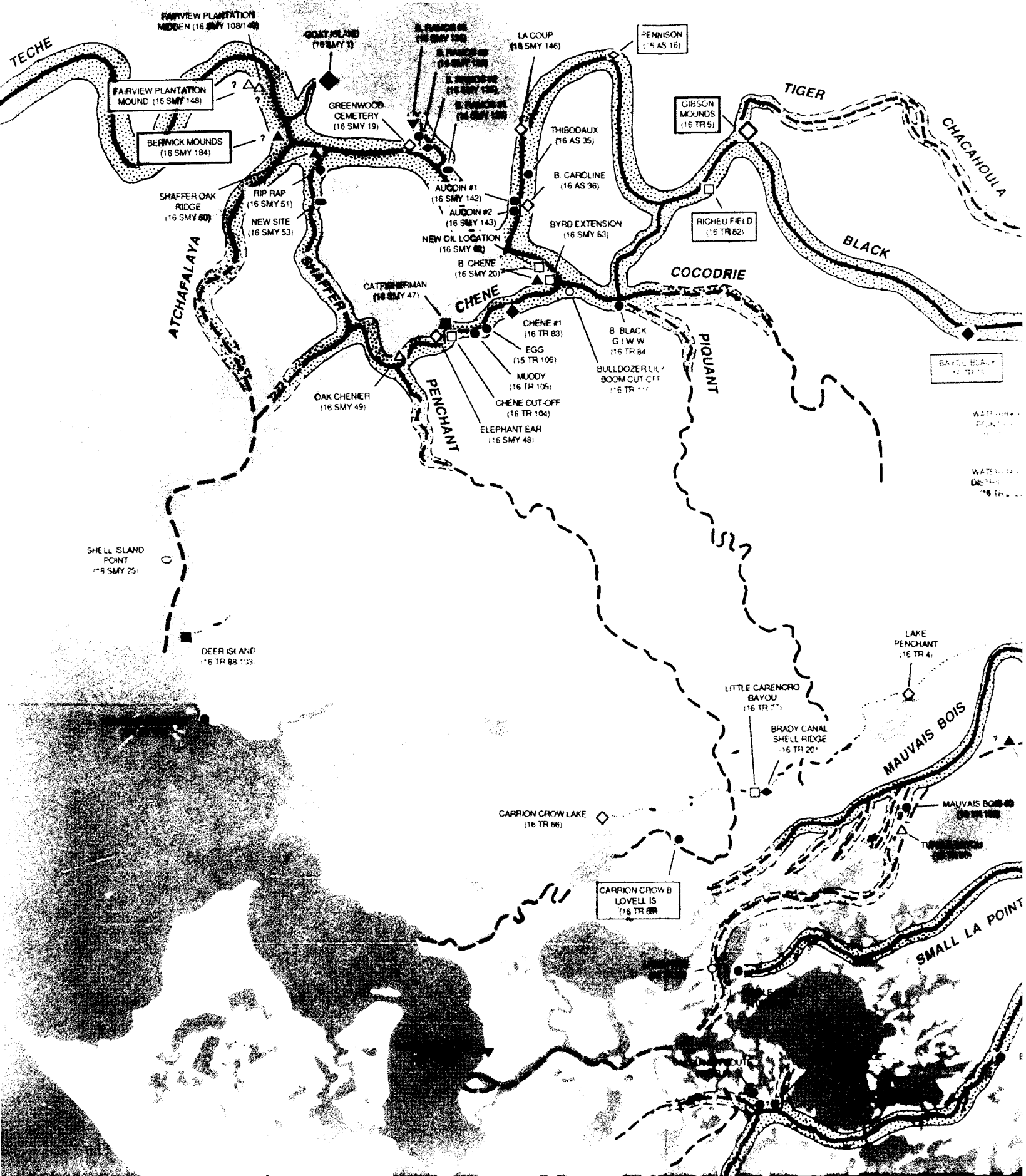
-  WATERCOURSE
-  NATURAL LEVEE
-  POSSIBLE BEACH RIDGE "ISLANDS" AND TREND OF RIDGE
-  RELICT WATERCOURSE
-  POSSIBLE COURSE



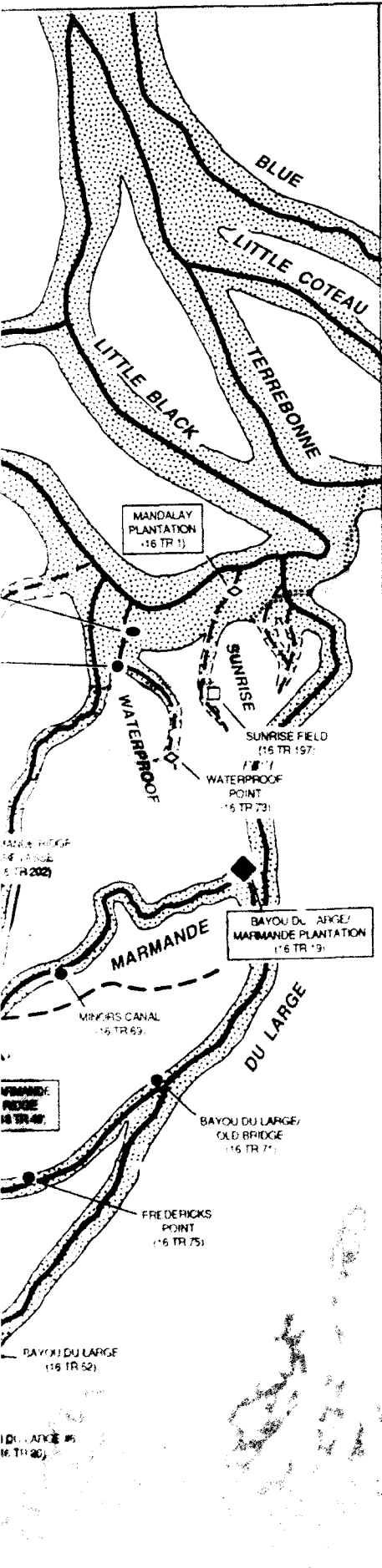
Plate 6



TERREBONNE MARSH

A.D. 700 to A.D. 1200

COLES CREEK PERIOD



■ INITIAL OCCUPATION

□ COMPONENT PRESENT

□ SINGLE-MOUND VILLAGE

□ MULTIPLE-MOUND VILLAGE

○ OCCUPATION QUESTIONABLE

LARGE SYMBOL = LARGE VILLAGE

■ EARLY COLES CREEK PERIOD

▼ MIDDLE COLES CREEK PERIOD

● LATE COLES CREEK PERIOD

◆ EARLY TO LATE COLES CREEK PERIOD

● EARLY TO MIDDLE COLES CREEK PERIOD

◆ MIDDLE TO LATE COLES CREEK PERIOD

▲ UNDIFFERENTIATED COLES CREEK PERIOD



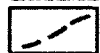
WATERCOURSE



NATURAL LEVEE



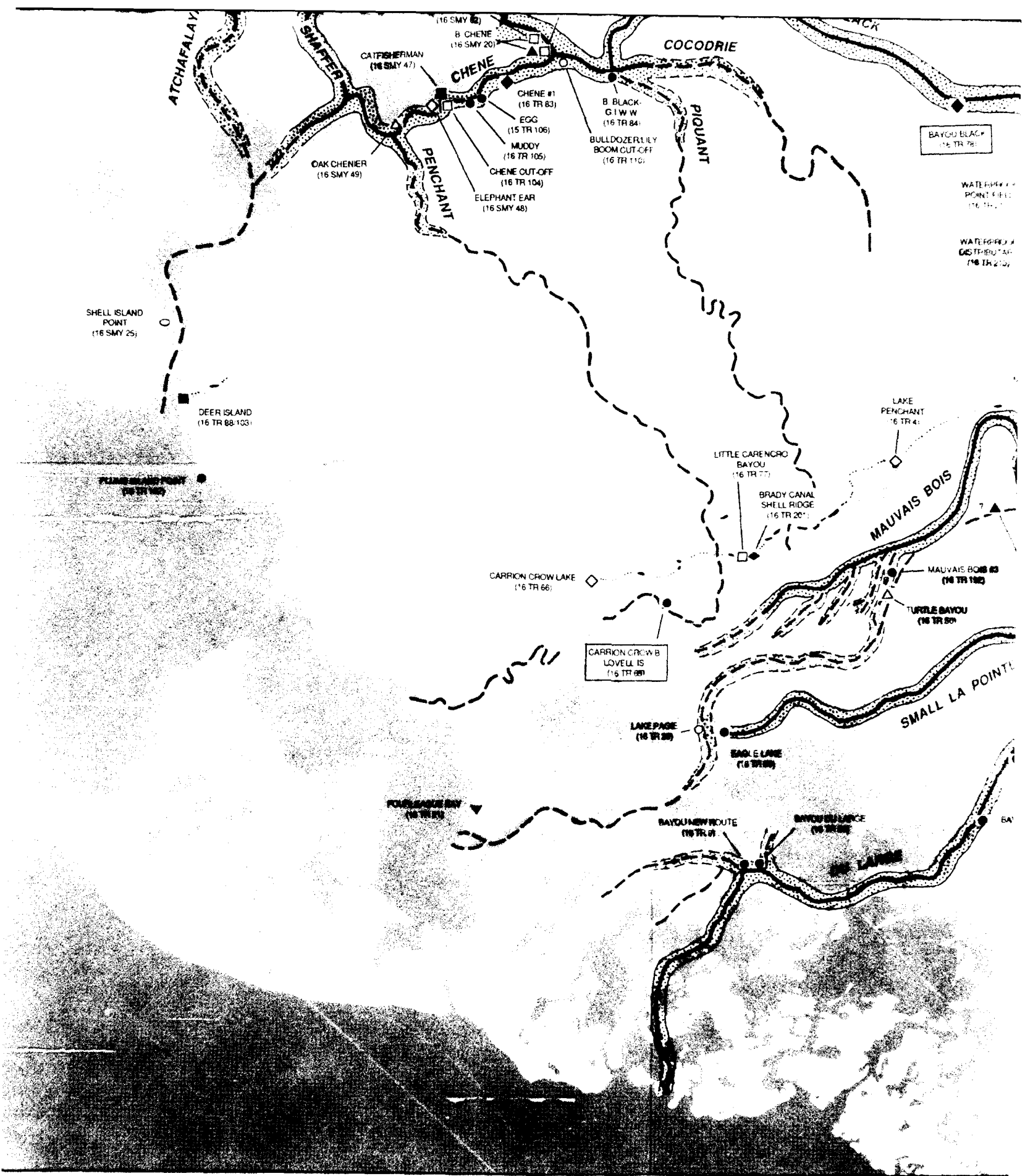
POSSIBLE BEACH RIDGE "ISLANDS"
AND TREND OF RIDGE

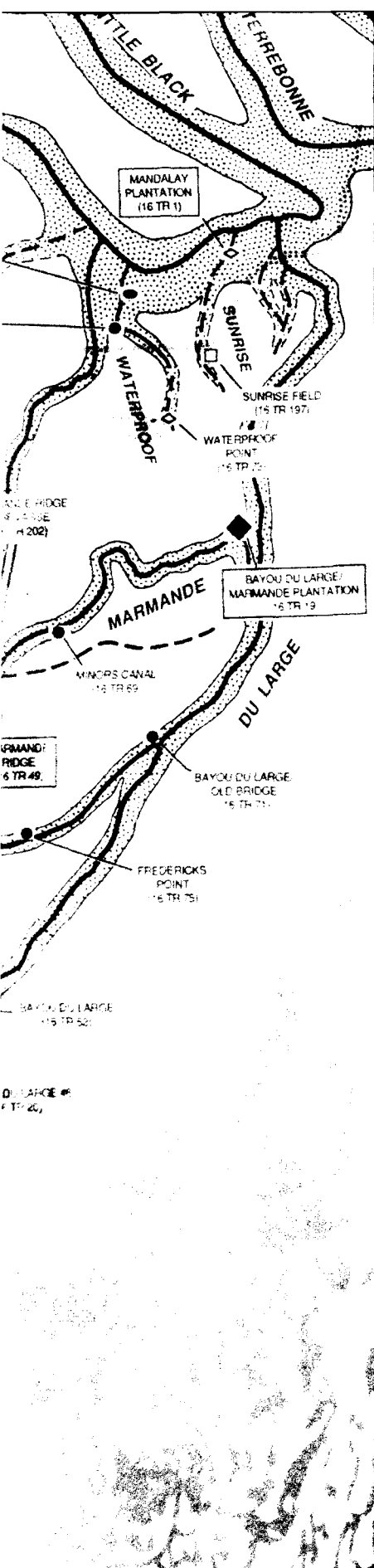


RELICT WATERCOURSE



POSSIBLE COURSE





■ INITIAL OCCUPATION □ COMPONENT PRESENT

□ SINGLE-MOUND VILLAGE
 □ MULTIPLE-MOUND VILLAGE

○ OCCUPATION QUESTIONABLE
 LARGE SYMBOL = LARGE VILLAGE

- EARLY COLES CREEK PERIOD
- ▼ MIDDLE COLES CREEK PERIOD
- LATE COLES CREEK PERIOD
- ◆ EARLY TO LATE COLES CREEK PERIOD
- EARLY TO MIDDLE COLES CREEK PERIOD
- ◆ MIDDLE TO LATE COLES CREEK PERIOD
- ▲ UNDIFFERENTIATED COLES CREEK PERIOD






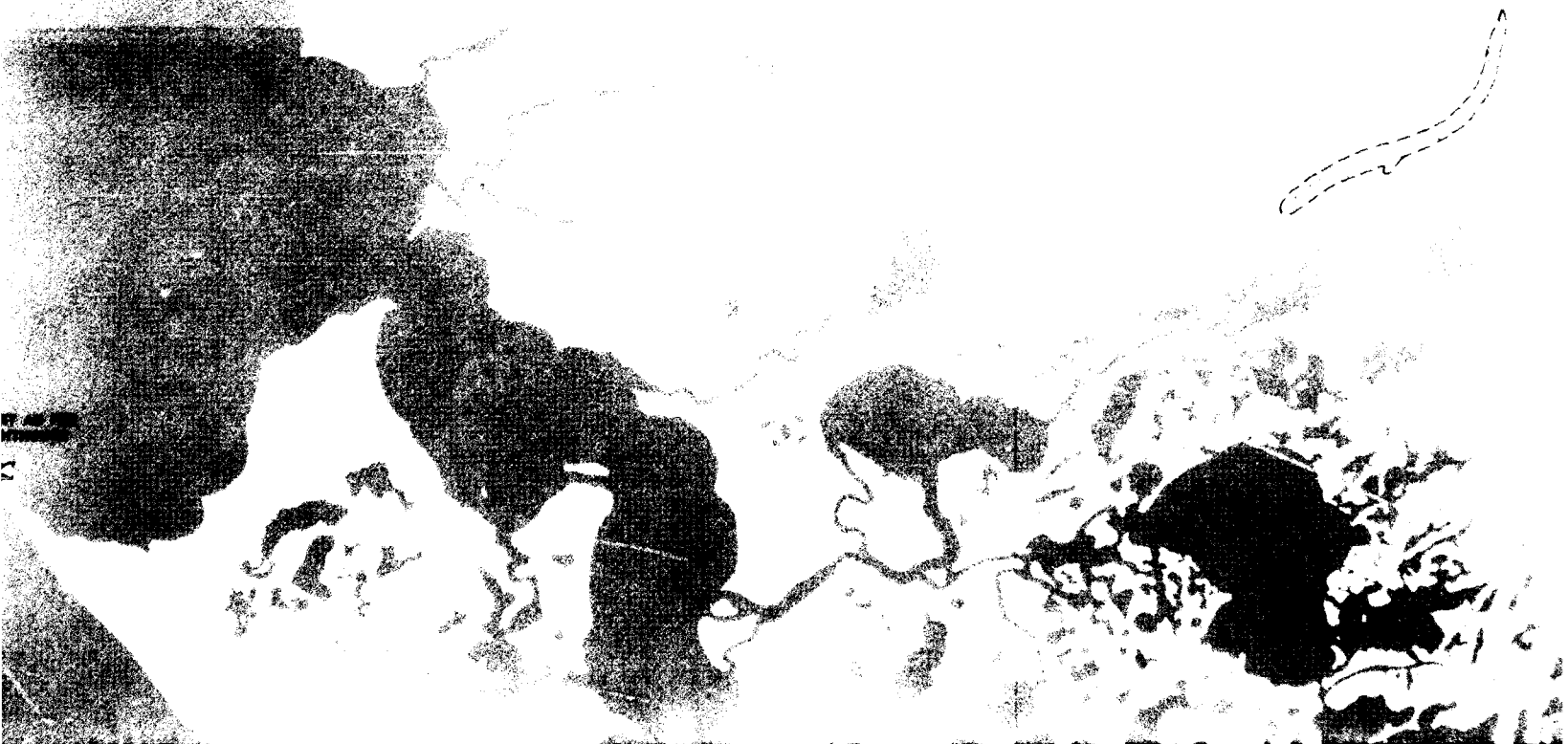
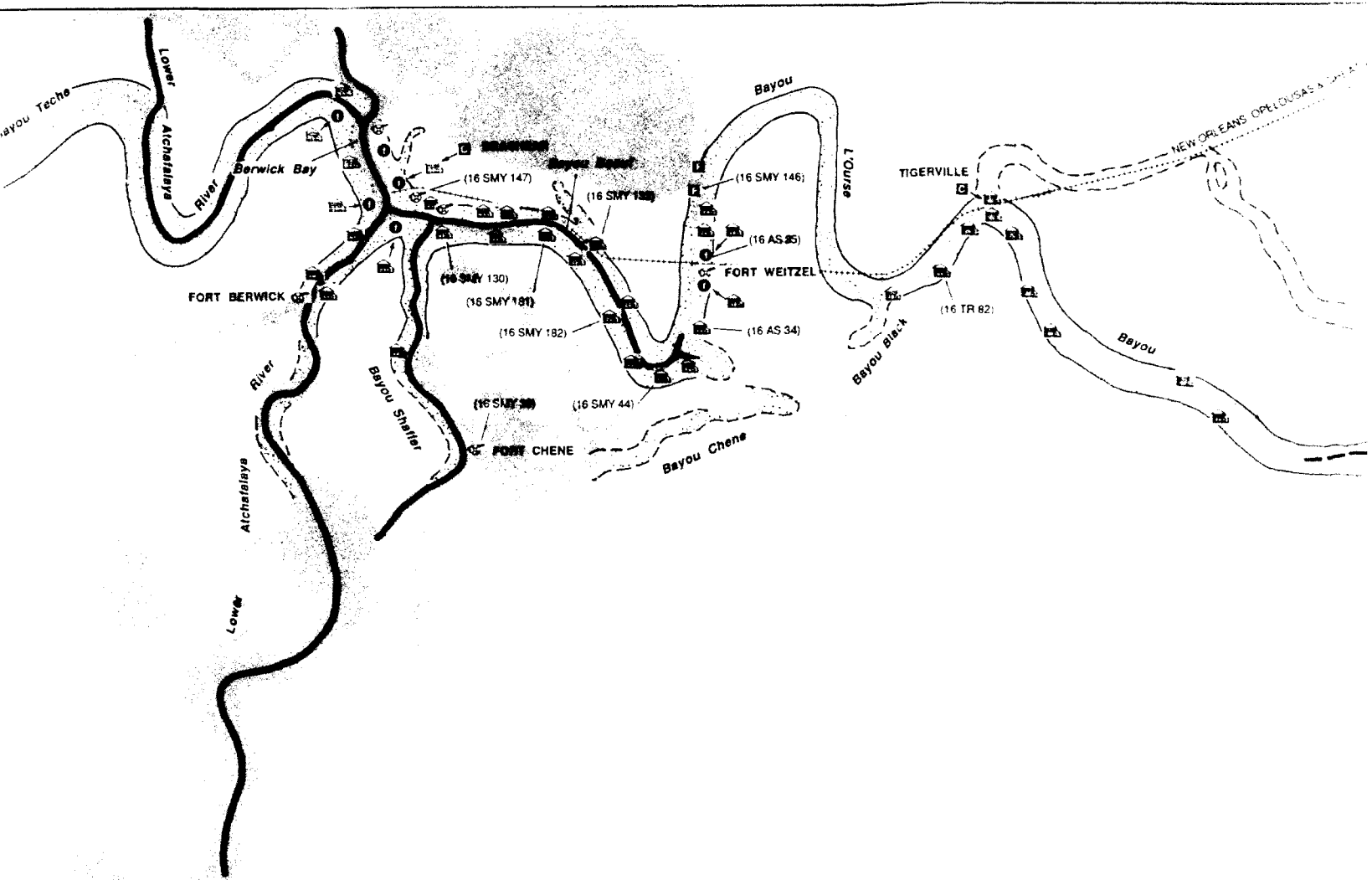
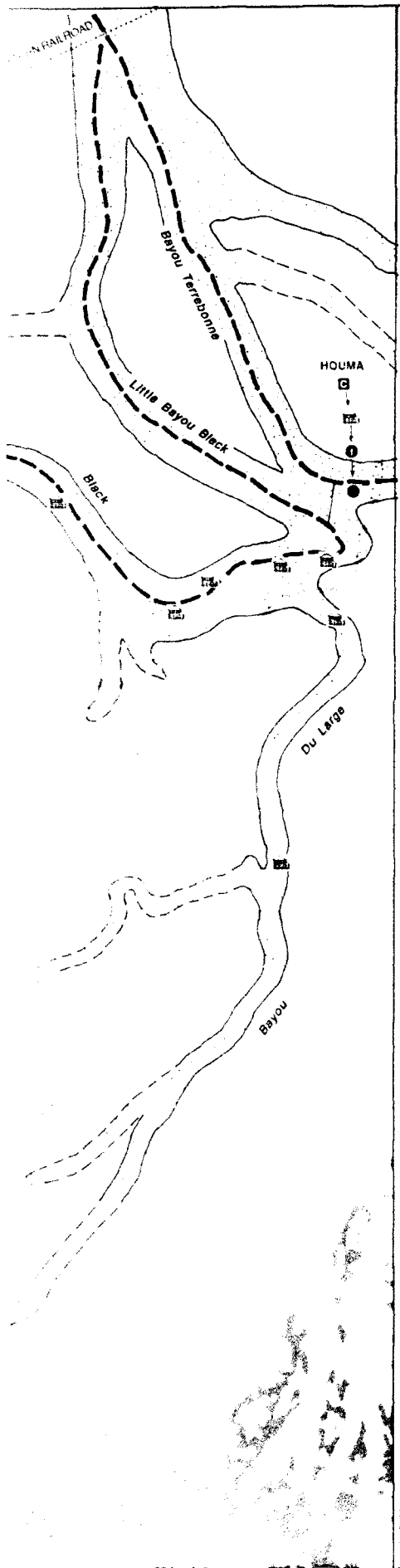
-  WATERCOURSE
-  NATURAL LEVEE
-  POSSIBLE BEACH RIDGE "ISLANDS" AND TREND OF RIDGE
-  RELICT WATERCOURSE
-  POSSIBLE COURSE



Plate 7





TERREBONNE MARSH

A.D. 1700 to A.D. 1803

COLONIAL PERIOD

① SMALL FARM

● INDIAN SETTLEMENT

A.D. 1804 to A.D. 1865

ANTEBELLUM AND CIVIL WAR PERIODS

① SMALL FARM

② PLANTATION

③ LIGHTHOUSE

④ COMMUNITY

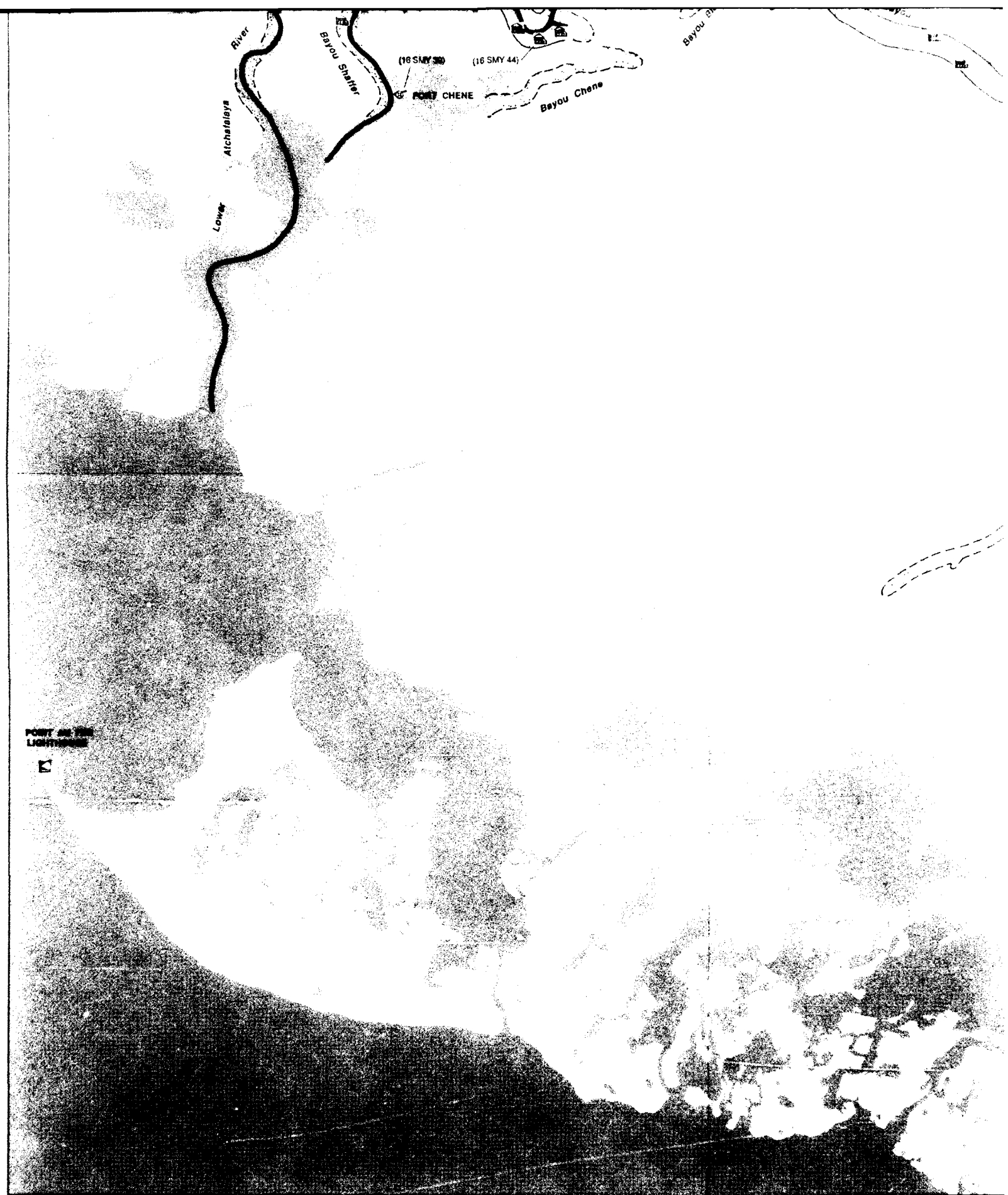
⑤ FORTIFICATION

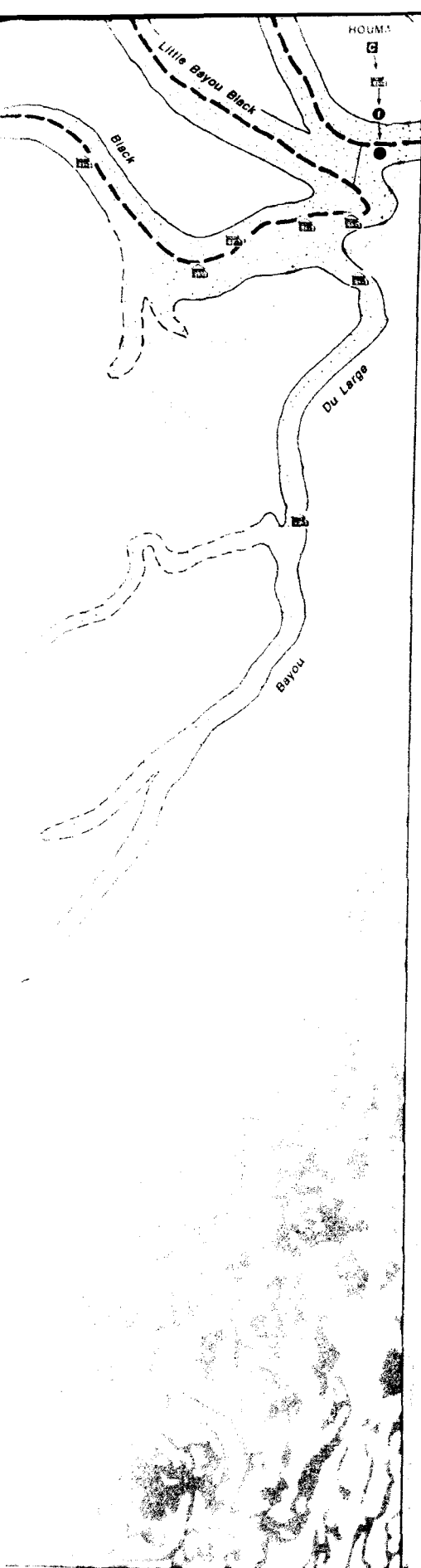
— CANAL

(16 SMY 133) ARCHEOLOGICAL SITE

— WATERCOURSE

— NATURAL LEVEE





COLONIAL PERIOD

● SMALL FARM

● INDIAN SETTLEMENT

A.D. 1804 to A.D. 1865

ANTEBELLUM AND CIVIL WAR PERIODS

■ SMALL FARM

■ PLANTATION

■ LIGHTHOUSE

■ COMMUNITY

■ FORTIFICATION

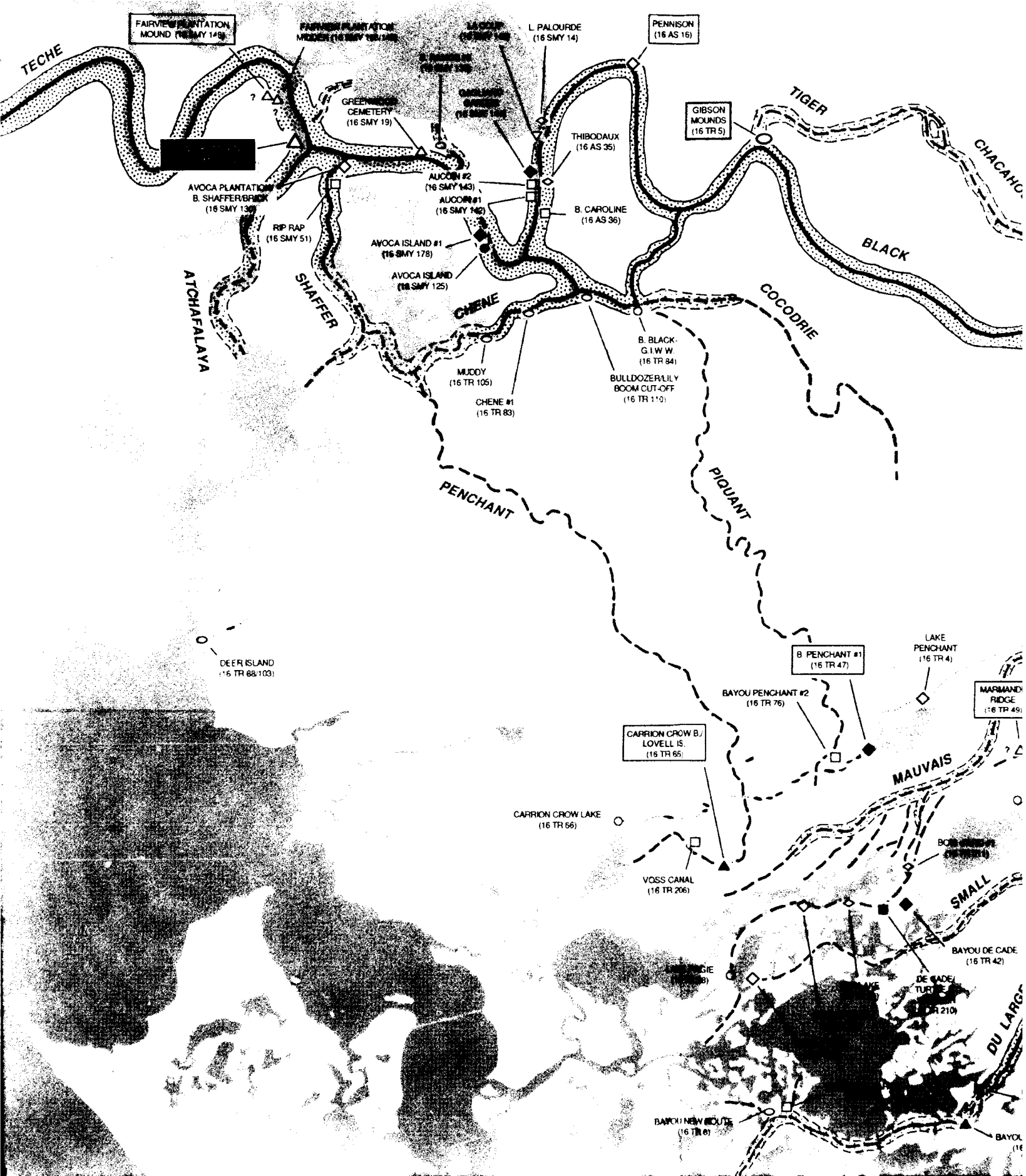
— CANAL

— ARCHEOLOGICAL SITE

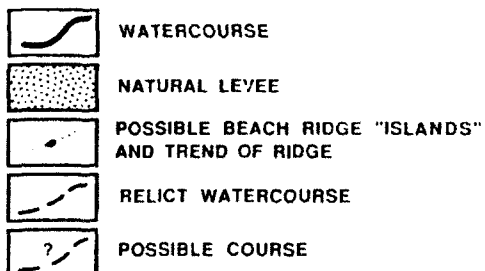
— WATERCOURSE

— NATURAL LEVEE





MISSISSIPPI PERIOD



ATCHAFALAYA

SHAFFER

AVOCA ISLAND
(16 SMY 125)

CHENE

MUDDY
(16 TR 105)

CHENE #1
(16 TR 83)

B BLACK
G L W W
(16 TR 84)

BULLDOZER/LULY
BOOM CUT-OFF
(16 TR 110)

COCODRIE

PENCHANT

PIQUANT

DEER ISLAND
(16 TR 88/103)

B PENCHANT #1
(16 TR 47)

LAKE
PENCHANT
(16 TR 4)

BAYOU PENCHANT #2
(16 TR 76)

CARRION CROW B.
LOVELL IS
(16 TR 65)

CARRION CROW LAKE
(16 TR 66)

VOSS CANAL
(16 TR 206)

MAUVAIS

BOIS d'ARC #1
(16 TR 211)

SMALL

LAKE PAGIE
(16 TR 28)

JUG LAKE
(16 TR 30)

FRANKA LAKE
(16 TR 29)

EAGLE LAKE
(16 TR 38)

DE CADE/
TURTLE &
JUNCTION
(16 TR 210)

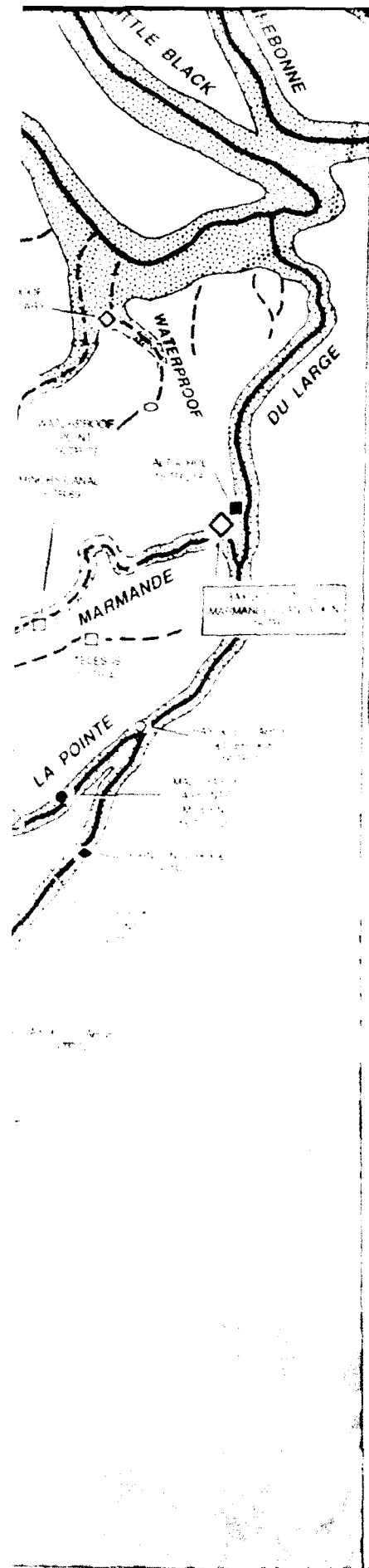
BAYOU DE CADE
(16 TR 42)

BAYOU DU LARGE
(16 TR 39)

BAYOU NEW ROUTE
(16 TR 8)

DU LARGE

BAYOU



■ INITIAL OCCUPATION □ COMPONENT PRESENT

□ SINGLE-MOUND VILLAGE
 □ MULTIPLE-MOUND VILLAGE
 ■ PARAMOUNT, MULTIPLE-MOUND VILLAGE
 ? OCCUPATION QUESTIONABLE
 LARGE SYMBOL = LARGE VILLAGE

■ EARLY MISSISSIPPI PERIOD
 ▼ MIDDLE MISSISSIPPI PERIOD
 ● LATE MISSISSIPPI PERIOD
 ◆ EARLY TO LATE MISSISSIPPI PERIOD
 ● EARLY TO MIDDLE MISSISSIPPI PERIOD
 ◆ MIDDLE TO LATE MISSISSIPPI PERIOD
 ▲ UNDIFFERENTIATED MISSISSIPPI PERIOD

WATERCOURSE
 NATURAL LEVEE
 POSSIBLE BEACH RIDGE "ISLANDS" AND TREND OF RIDGE
 RELICT WATERCOURSE
 POSSIBLE COURSE

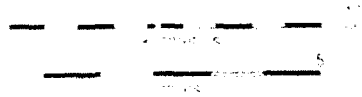
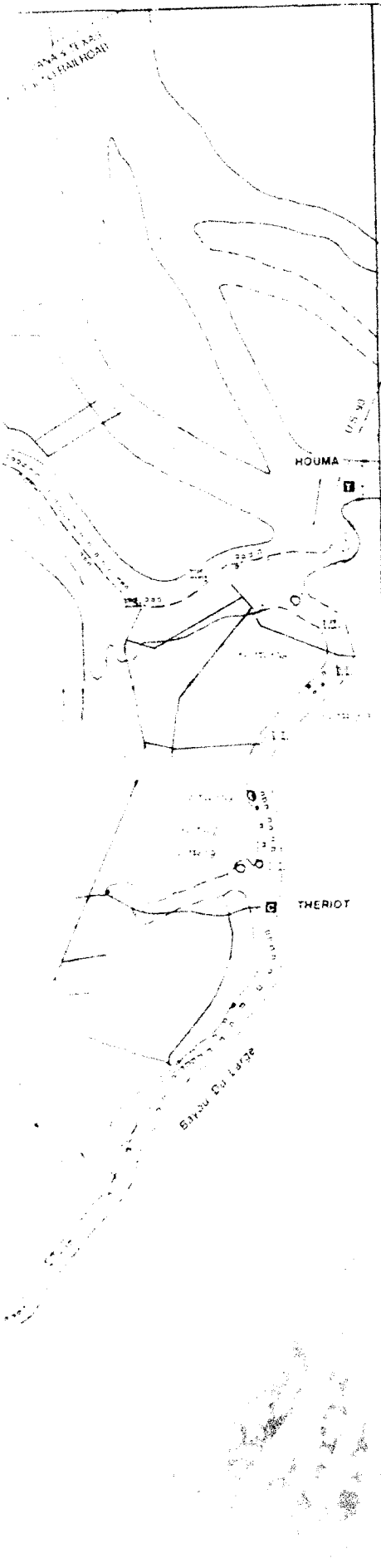


Plate 8



WEST REEF
HOUSE

0.16 71.26

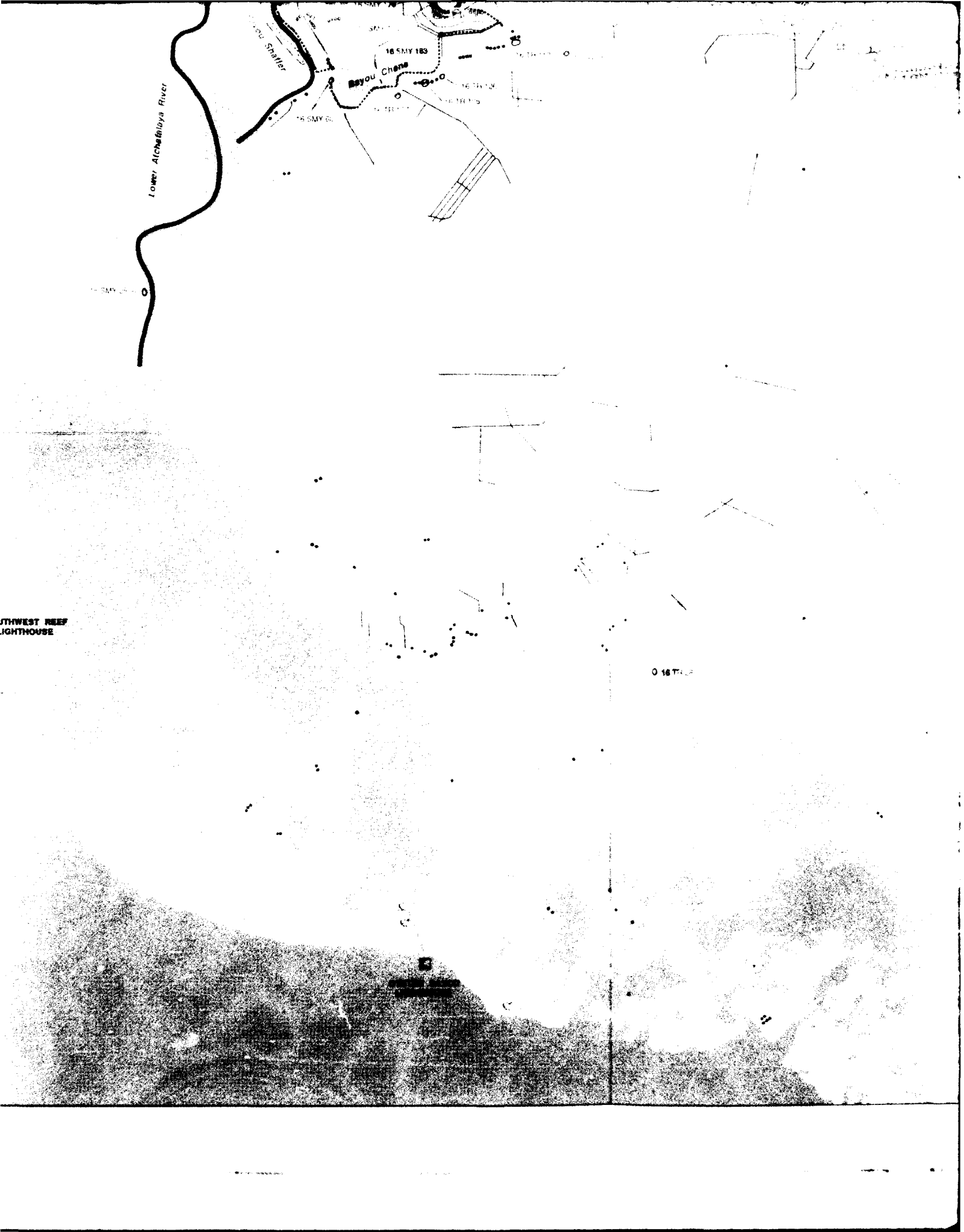


TERREBONNE MARSH

A.D. 1866 to A.D. 1940

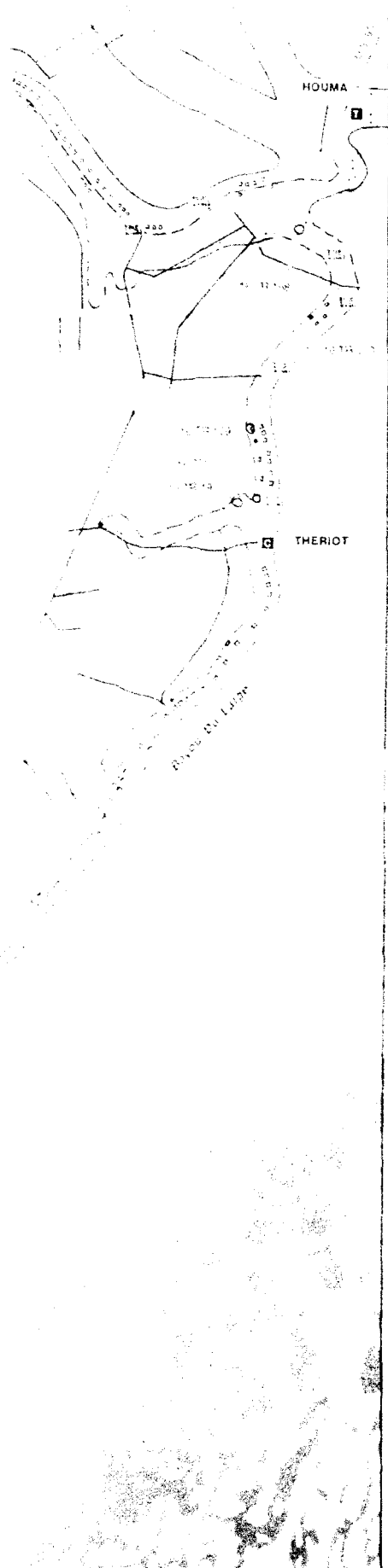
POSTBELLUM AND MODERN PERIODS

- | | | | |
|--|-------------------------|--|--------------------|
| | COMMUNITY | | CANAL |
| | TOWN | | HIGHWAY |
| | PLANTATION | | LEVEE |
| | SAWMILL | | ARCHEOLOGICAL SITE |
| | HOUSES | | WATERCOURSE |
| | CAMPS | | NATURAL LEVEE |
| | SHRIMP-DRYING PLATFORMS | | |



A.D. 1866 to A.D. 1940

POSTBELLUM AND MODERN PERIODS



COMMUNITY

TOWN

PLANTATION

SAWMILL

HOUSES

CAMPS

SHRIMP-DRYING PLATFORMS

CANAL

HIGHWAY

LEVEE

ARCHEOLOGICAL SITE

WATERCOURSE

NATURAL LEVEE

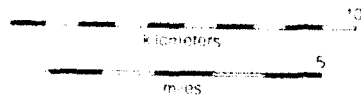
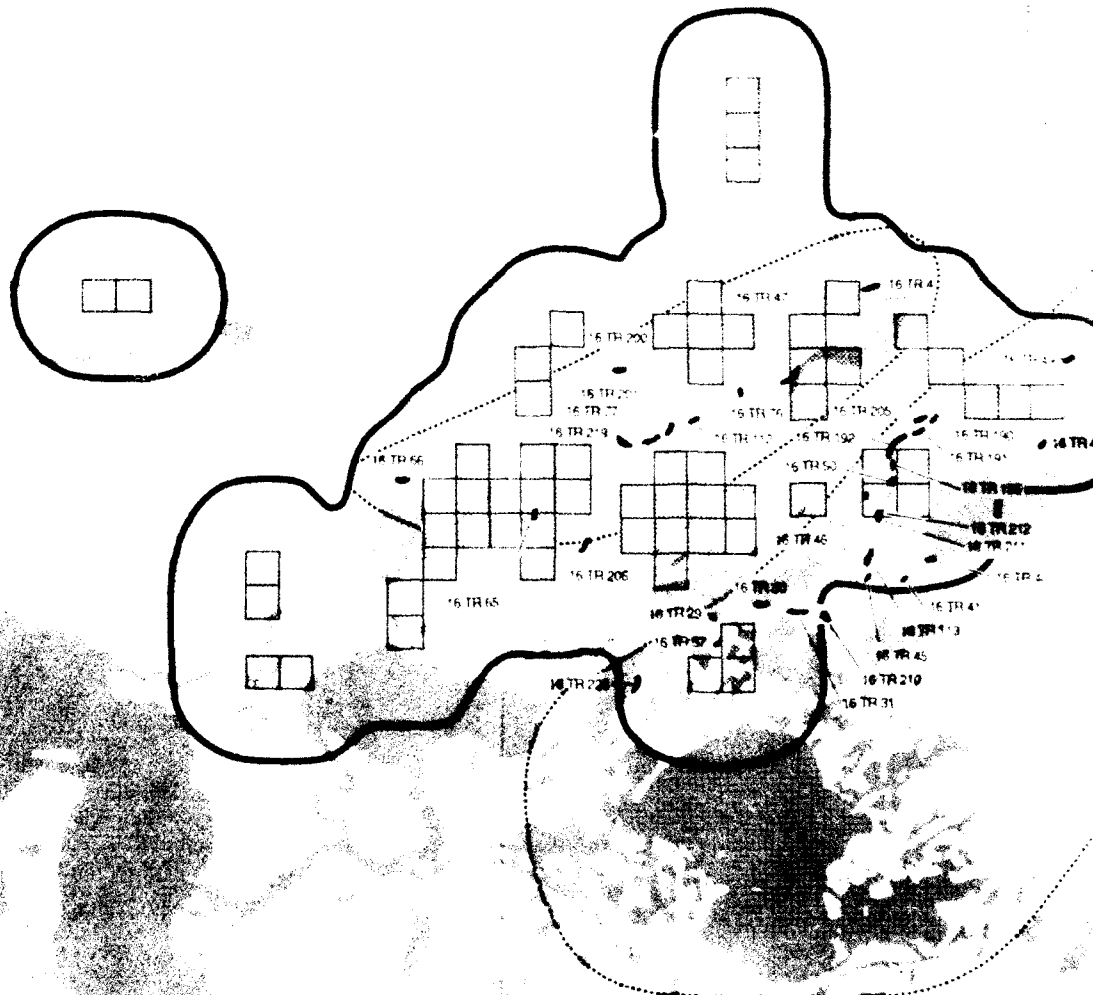
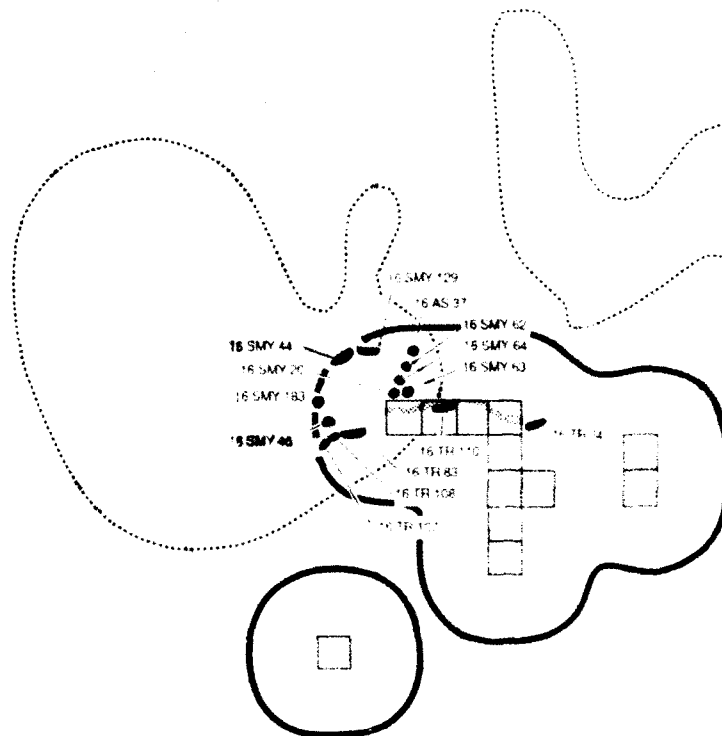


Plate 10



TERREBONNE MARSH

A.D. 2033

WITHOUT AILE



CELL PREDICTED TO CHANGE TO OPEN WATER



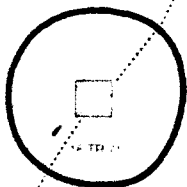
GENERAL AREA OF CHANGE TO OPEN WATER



16 TR 50
ARCHEOLOGICAL SITE SUBJECT TO POTENTIAL IMPACT



HIGH SENSITIVITY AREAS



TERREBONNE MARSH

A.D. 2033

WITHOUT AILE



CELL PREDICTED TO CHANGE TO OPEN WATER



GENERAL AREA OF CHANGE TO OPEN WATER

16 TR 50

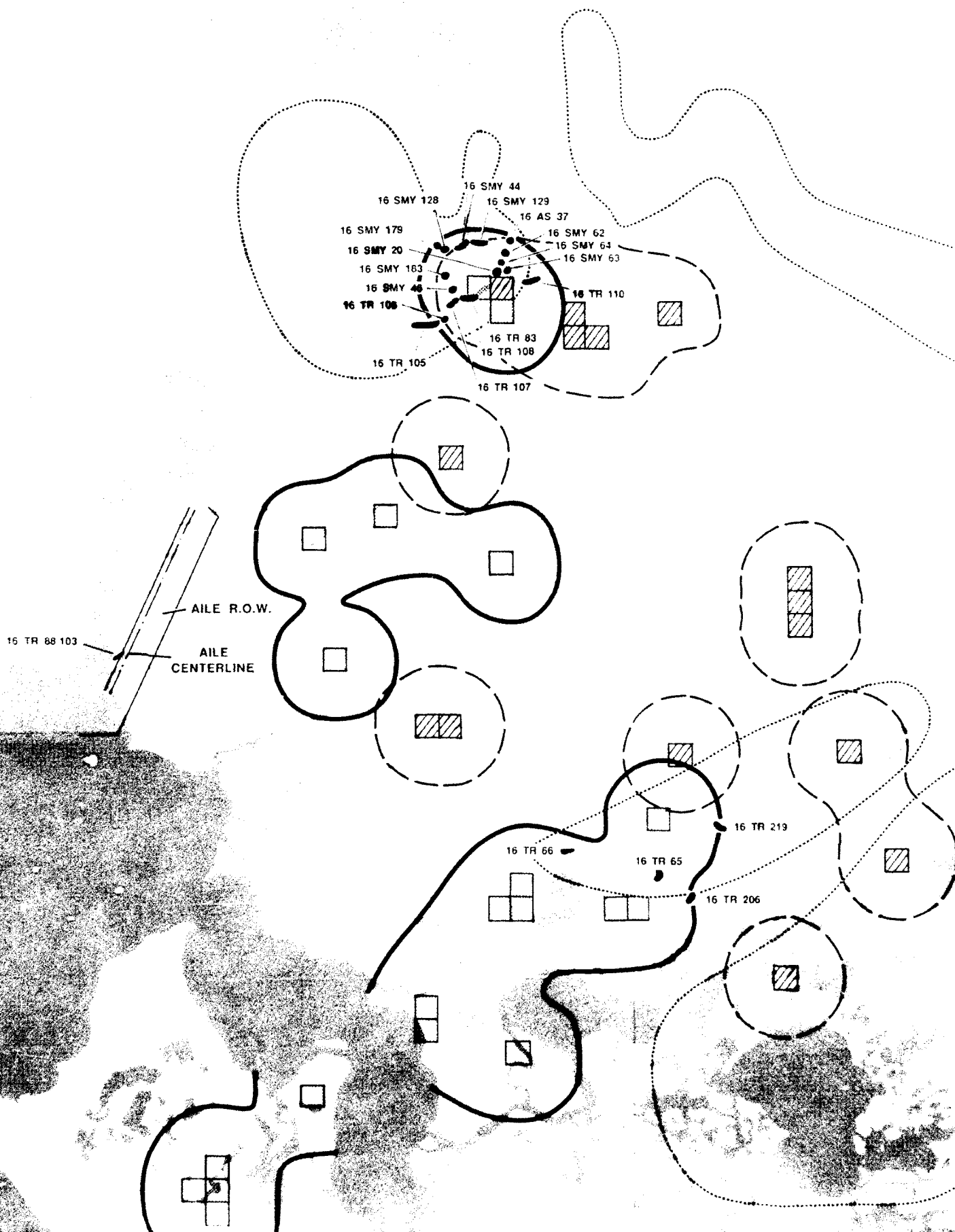
ARCHEOLOGICAL SITE SUBJECT TO POTENTIAL IMPACT



HIGH-SENSITIVITY AREAS



Plate 11



TERREBONNE MARSH

A.D. 2033

AILE WITHOUT MITIGATION



CELL PREVENTED FROM CHANGING TO OPEN WATER



CELL PREDICTED TO CHANGE TO OPEN WATER



GENERAL AREA OF CHANGE TO OPEN WATER

16 TR 50

• ARCHEOLOGICAL SITE SUBJECT TO POTENTIAL IMPACT



GENERAL AREA OF STABILIZATION



HIGH SENSITIVITY AREAS

16 SMY 20
16 SMY 183
16 SMY 45
16 TR 106
16 TR 105
16 TR 107
16 TR 83
16 TR 108
16 TR 110
16 SMY 63
16 SMY 64

16 TR 88/103

AILE R.O.W.
AILE
CENTERLINE

16 TR 66

16 TR 65

16 TR 219

16 TR 206

AILE WITHOUT MITIGATION



CELL PREVENTED FROM CHANGING TO OPEN WATER



CELL PREDICTED TO CHANGE TO OPEN WATER



GENERAL AREA OF CHANGE TO OPEN WATER

16 TR 50

ARCHEOLOGICAL SITE SUBJECT TO POTENTIAL IMPACT



GENERAL AREA OF STABILIZATION



HIGH-SENSITIVITY AREAS

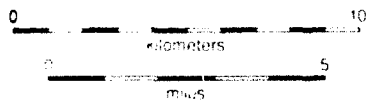


Plate 12

FRESHWATER
DIVERSION
STRUCTURE

FRESHWATER
DIVERSION
STRUCTURE

SALTWATER
CONTROL
STRUCTURE

AILE R.O.W.

AILE
CENTERLINE

16 TR 88-103

16 TR 64

16 TR 200

16 TR 219

16 TR 192

16 TR 46

16 TR 205

16 TR 190

16 TR 191

16 TR 195

16 TR 20

16 TR 65

16 TR 206

16 TR 212

16 TR 211

TERREBONNE MARSH

A.D. 2033

AILE WITH MITIGATION



CELL PREVENTED FROM CHANGING TO OPEN WATER



CELL PREDICTED TO CHANGE TO OPEN WATER



GENERAL AREA OF CHANGE TO OPEN WATER

16 TR 50

ARCHEOLOGICAL SITE SUBJECT TO POTENTIAL IMPACT



GENERAL AREA OF STABILIZATION



MITIGATION STRUCTURE



HIGH-SENSITIVITY AREAS

SALTWATER
CONTROL
STRUCTURE

RESEARCH
DIVISION
STR. 12118

16 TR 88-103

AILE R.O.W.

AILE
CENTERLINE

SALTWATER
CONTROL
STRUCTURE

RED WATERS
CONTROL
STRUCTURE

16 TR 85

16 TR 200

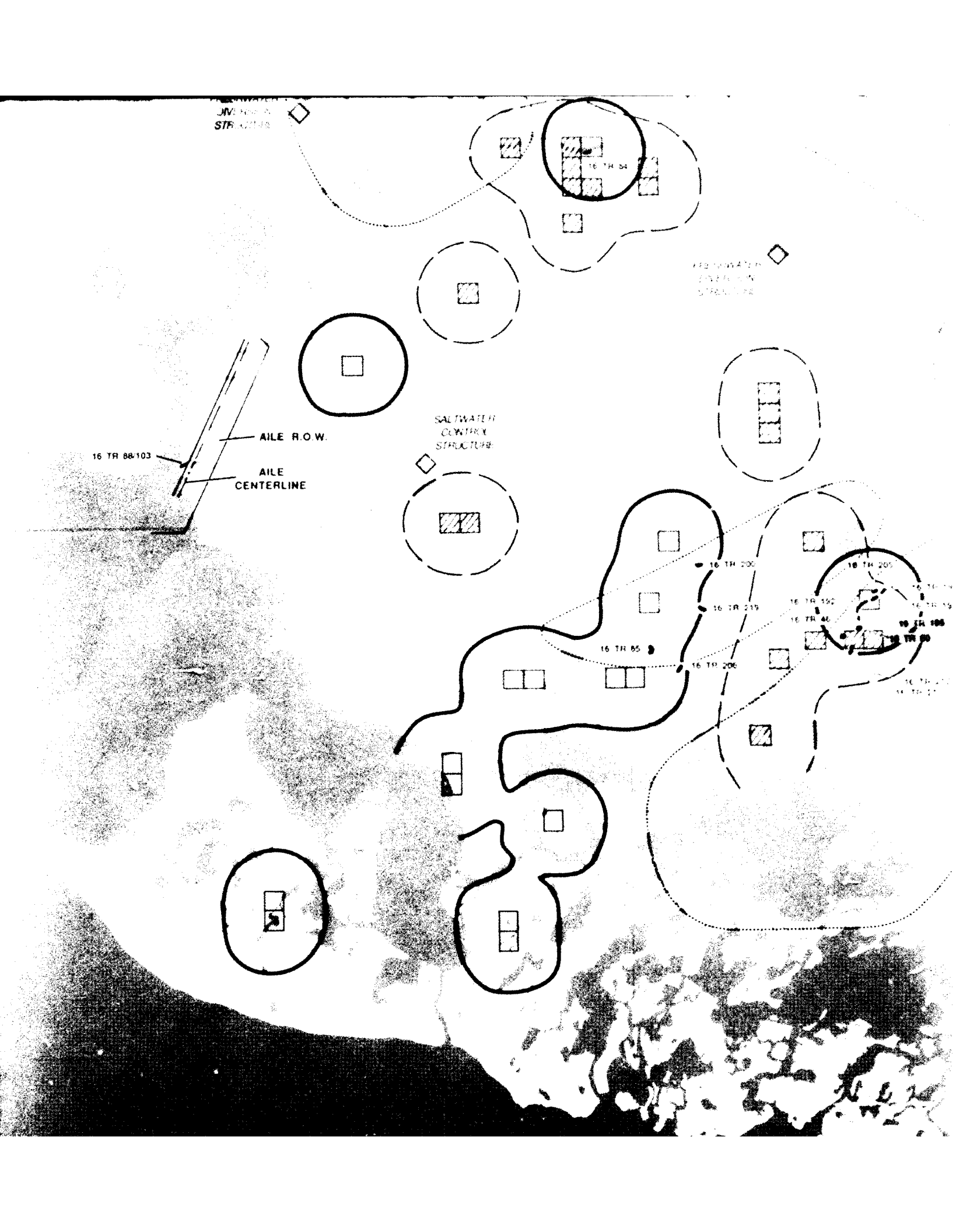
16 TR 219

16 TR 200

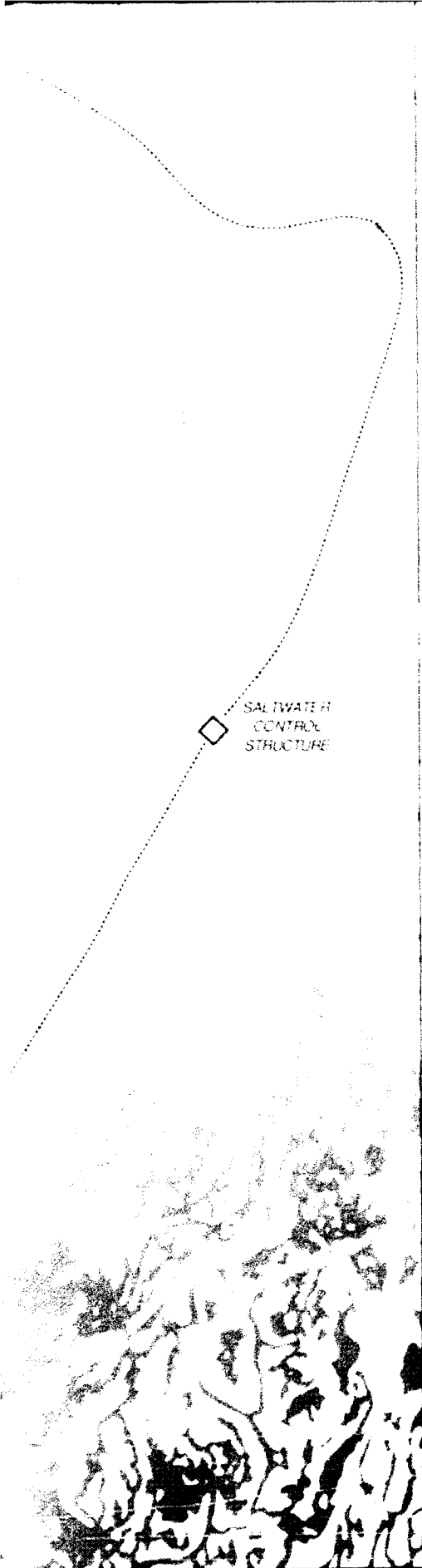
16 TR 150
16 TR 40

16 TR 205

16 TR 174
16 TR 15
16 TR 100
16 TR 80
16 TR 17
16 TR 17



AILE WITH MITIGATION



CELL PREVENTED FROM CHANGING TO OPEN WATER



CELL PREDICTED TO CHANGE TO OPEN WATER



GENERAL AREA OF CHANGE TO OPEN WATER



16 TR 50 ARCHEOLOGICAL SITE SUBJECT TO POTENTIAL IMPACT



GENERAL AREA OF STABILIZATION



MITIGATION STRUCTURE



HIGH SENSITIVITY AREAS

